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DISTRIBUTION OF PHYTOPLANKTON IN SOUTH CAROLINA LAKES

by

S. C. Hern, J. W. Hilgert*, V. W. Lambou,
F. A. Morris*, M. K. Morris*, L. R. Williams,
W. D. Taylor, and F. A. Hiatt*

Monitoring Operations Division
Environmental Monitoring and Support Laboratory
Las Vegas, Nevada 89114

*Department of Biological Sciences
The University of Nevada, Las Vegas
Las Vegas, Nevada 89154

ENVIRONMENTAL MONITORING AND SUPPORT LABORATORY
OFFICE OF RESEARCH AND DEVELOPMENT
U.S. ENVIRONMENTAL PROTECTION AGENCY
LAS VEGAS, NEVADA 89114

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FOREWORD

Protection of the environment requires effective regulatory actions which are based on sound technical and scientific information. This information must include the quantitative description and linking of pollutant sources, transport mechanisms, interactions, and resulting effects on man and his environment. Because of the complexities involved, assessment of specific pollutants in the environment requires a total systems approach which transcends the media of air, water, and land. The Environmental Monitoring and Support Laboratory-Las Vegas contributes to the formation and enhancement of a sound integrated monitoring data base through multidisciplinary, multimedia programs designed to:

- develop and optimize systems and strategies for monitoring pollutants and their impact on the environment
- demonstrate new monitoring systems and technologies by applying them to fulfill special monitoring needs of the Agency's operating programs

This report presents the species and abundance of phytoplankton in the 13 lakes sampled by the National Eutrophication Survey in the State of South Carolina, along with results from the calculation of several commonly used biological indices of water quality and community structure. These data can be used to biologically characterize the study lakes, and as baseline data for future investigations. This report was written for use by Federal, State, and local governmental agencies concerned with water quality analysis, monitoring, and/or regulation. Private industry and individuals similarly involved with the biological aspects of water quality will find the document useful. For further information contact the Water and Land Quality Branch, Monitoring Operations Division.

George B. Morgan
Director
Environmental Monitoring and Support Laboratory
Las Vegas

ABSTRACT

This is a data report presenting the species and abundance of phytoplankton in the 13 lakes sampled by the National Eutrophication Survey in the State of South Carolina. Results from the calculation of several water quality indices are also included (Nygaard's Trophic State Index, Palmer's Organic Pollution Index, and species diversity and abundance indices).

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INTRODUCTION

The collection and analysis of phytoplankton data were included in the National Eutrophication Survey in an effort to determine relationships between algal characteristics and trophic status of individual lakes.

During spring, summer, and fall of 1973, the Survey sampled 250 lakes in 17 States. Over 700 algal species and varieties were identified and enumerated from the 743 water samples examined.

This report presents the species and abundance of phytoplankton in the 13 lakes sampled in the State of South Carolina (Table 1). The Nygaard's Trophic State (Nygaard 1949), Palmer's Organic Pollution (Palmer 1969), and species diversity and abundance indices are also included.

TABLE 1. LAKES SAMPLED IN THE STATE OF SOUTH CAROLINA

STORET No.	Lake Name	County
4503	Fishing Creek Reservoir	Lancaster, Chester
4504	Lake Greenwood	Laurens, Greenwood, Newberry
4505	Lake Hartwell	Anderson, Oconee, Pickens (Franklin, Hart in GA)
4506	Lake Marion	Berkeley, Clarendon, Sumter, Calhoun, Orangeburg
4507	Lake Murray	Lexington, Saluda, Richland, Newberry
4508	Lake Robinson	Darlington, Chesterfield
4510	Lake Wateree	Kershaw, Fairfield, Lancaster
4511	Lake Wylie (Lake Catawba)	York (Gaston, Mechlenburg in NC)

(Cont.)

TABLE 1. LAKES SAMPLED IN THE STATE OF SOUTH CAROLINA (Cont.)

STORET No.	Lake Name	County
4512	Lake Moultrie	Berkeley
4513	Lake Keowee	Oconee, Pickens
4514	Lake Secession	Abbeville, Anderson
4515	Saluda Lake	Greenville, Pickens
4516	Lake William C. Bowen	Spartanburg

MATERIALS AND METHODS

LAKE AND SITE SELECTION

Lakes and reservoirs included in the Survey were selected through discussions with State water pollution agency personnel and U.S. Environmental Protection Agency Regional Offices (U.S. Environmental Protection Agency 1975). Screening and selection strongly emphasized lakes with actual or potential accelerated eutrophication problems. As a result, the selection was limited to lakes:

(1) impacted by one or more municipal sewage treatment plant outfalls either directly into the lake or by discharge to an inlet tributary within approximately 40 kilometers of the lake;

(2) 40 hectares or larger in size; and

(3) with a mean hydraulic retention time of at least 30 days.

Specific selection criteria were waived for some lakes of particular State interest.

Sampling sites for a lake were selected based on available information on lake morphometry, potential major sources of nutrient input, and on-site judgment of the field limnologist (U.S. Environmental Protection Agency 1975). Primary sampling sites were chosen to reflect the deepest portion of each major basin in a test lake. Where many basins were present, selection was guided by nutrient source information on hand. At each sampling site, a depth-integrated phytoplankton sample was taken. Depth-integrated samples were uniform mixtures of water from the surface to a depth of 15 feet (4.6 meters) or from the surface to the lower limit of the photic zone representing 1 percent of the incident light, whichever was greater. If the depth at the sampling site was less than 15 feet (4.6 meters), the sample was taken from just off the bottom to the surface. Normally, a lake was sampled three times in 1 year, providing information on spring, summer, and fall conditions.

SAMPLE PREPARATION

Four milliliters (ml) of Acid-Lugol's sollution (Prescott 1970) were added to each 130-ml sample from each site at the time of collection for preservation. The samples were shipped to the Environmental Monitoring and Support Laboratory, Las Vegas, Nevada, where equal volumes from each site were mixed to form two 130-ml composite samples for a given lake. One composite sample was put into storage and the other was used for the examination.

Prior to examination, the composite samples were concentrated by the settling method. Solids were allowed to settle for at least 24 hours prior to siphoning off the supernate. The volume of the removed supernate and the volume of the remaining concentrate were measured and concentrations determined. A small (8 ml) library subsample of the concentrate was then taken. The remaining concentrate was gently agitated to resuspend the plankton and poured into a capped, graduated test tube. If a preliminary examination of a sample indicated the need for a more concentrated sample, the contents of the test tube were further concentrated by repeating the settling method. Final concentrations varied from 15 to 40 times the original.

Permanent slides were prepared from concentrated samples after analysis was complete. A drop of superconcentrate from the bottom of the test tube was placed in a ring of clear Karo® Corn Syrup with phenol (a few crystals of phenol were added to each 100 ml of syrup) on a glass slide, thoroughly mixed, and topped with a coverglass. After the syrup at the edges of the coverglass had hardened, the excess was scraped away and the mount was sealed with clear fingernail polish. Permanent diatom slides were prepared by drying sample material on a coverglass, heating in a muffle furnace at 400° C for 45 minutes, and mounting in Hyrax.® Finally, the mounts were sealed with clear fingernail polish.

Backup samples, library samples, permanent sample slides, and Hyrax®-mounted diatom slides are being stored and maintained at the U.S. Environmental Protection Agency's Environmental Monitoring and Support Laboratory-Las Vegas.

EXAMINATION

The phytoplankton samples were examined with the aid of binocular compound microscopes. A preliminary examination was performed to precisely identify and list all forms encountered. The length of this examination varied depending on the complexity of the sample. An attempt was made to find and identify all of the forms present in each sample. Often forms were observed which could not be identified to species or to genus. Abbreviated descriptions were used to keep a record of these forms (e.g., lunate cell, blue-green filament, Navicula #1). Diatom slides were examined using a standard light microscope. If greater resolution was essential to accurately identify the diatoms, a phase-contrast microscope was used.

After the species list was compiled, phytoplankton were enumerated using a Neubauer Counting Chamber with a 40X objective lens and a 10X ocular lens. All forms within each field were counted. The count was continued until a minimum of 100 fields had been viewed, or until the dominant form had been observed a minimum of 100 times.

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QUALITY CONTROL

Internal quality control checks on species identifications and counts were performed on a regular basis between project phycologists at the rate of 7 percent. Although an individual had primary responsibility for analyzing a sample, taxonomic problems were discussed among the phycologists.

Additional quality control checks were performed on the Survey samples by Dr. G. W. Prescott of the University of Montana at the rate of 5 percent. Quality control checks were made on 75 percent of these samples to verify species identifications while checks were made on the remaining 25 percent of the samples to verify genus counts. Presently, the agreement between quality control checks for species identification and genus enumerations is satisfactory.

RESULTS

The Appendix summarizes all of the phytoplankton data collected from the State by the Survey. It is organized by lake, including an alphabetical phytoplankton species list with concentrations for individual species given by sampling date. Results from the application of several indices are presented (Nygaard's Trophic State, Palmer's Organic Pollution, and species diversity and abundance). Each lake has been assigned a four digit STORET number. [STORET (STOrage and RETrieval) is the U.S. Environmental Protection Agency's computer system which processes and maintains water quality data.] The first two digits of the STORET number identify the State; the last two digits identify the lake.

NYGAARD'S TROPHIC STATE INDICES

Five indices devised by Nygaard (1949) were proposed under the assumption that certain algal groups are indicative of levels of nutrient enrichment. These indices were calculated in order to aid in determining the surveyed lakes' trophic status. As a general rule, Cyanophyta, Euglenophyta, centric diatoms, and members of the Chlorococcales are found in waters that are eutrophic (rich in nutrients), while desmids and many pennate diatoms generally cannot tolerate high nutrient levels and so are found in oligotrophic waters (poor in nutrients).

In applying the indices to the Survey data, the number of taxa in each major group was determined from the species list for each sample. The ratios of these groups give numerical values which can be used as a biological index of water richness. The five indices and the ranges of values established for Danish lakes by Nygaard for each trophic state are presented in Table 2. The appropriate symbol, (E) eutrophic and (O) oligotrophic, follows each calculated value in the tables in the Appendix. A question mark (?) was entered in these tables when the calculated value was within the range of both classifications.

PALMER'S ORGANIC POLLUTION INDICES

Palmer (1969) analyzed reports from 165 authors and developed algal pollution indices for use in rating water samples with high organic pollution. Two lists of organic pollution-tolerant forms were prepared, one containing 20 genera, the other, 20 species (Tables 3 and 4). Each form was assigned a pollution index number ranging from 1 for moderately tolerant forms to 6 for extremely tolerant forms. Palmer based the index numbers on occurrence records and/or where emphasized by the authors as being especially tolerant of organic pollution.

TABLE 2. NYGAARD'S TROPHIC STATE INDICES ADAPTED FROM HUTCHINSON (1967)

Index	Calculation	Oligotrophic	Eutrophic
Myxophycean	$\frac{\text{Myxophyceae}}{\text{Desmideae}}$	0.0-0.4	0.1-3.0
Chlorophycean	$\frac{\text{Chlorococcales}}{}$	0.0-0.7	0.2-9.0
Diatom	$\frac{\text{Centric Diatoms}}{\text{Pennate Diatoms}}$	0.0-0.3	0.0-1.75
Euglenophyte	$\frac{\text{Euglenophyta}}{\text{Myxophyceae + Chlorococcales}}$	0.0-0.2	0.0-1.0
Compound	$\frac{\text{Myxophyceae + Chlorococcales + Centric Diatoms + Euglenophyta}}{\text{Desmideae}}$	0.0-1.0	1.2-25

TABLE 3. ALGAL GENUS POLLUTION INDEX (Palmer 1969)

Genus	Pollution Index
Anacystis	1
Ankistrodesmus	2
Chlamydomonas	4
Chlorella	3
Closterium	1
Cyclotella	1
Euglena	5
Comphonema	1
Lepocinclis	1
Melosira	1
Micractinium	1
Navicula	3
Nitzschia	3
Oscillatoria	5
Pandorina	1
Phacus	2
Phormidium	1
Scenedesmus	4
Stigeoclonium	2
Synedra	2

TABLE 4. ALGAL SPECIES POLLUTION INDEX (Palmer 1969)

Species	Pollution Index
Ankistrodesmus falcatus	3
Arthrospira jenneri	2
Chlorella vulgaris	2
Cyclotella meneghiniana	2
Euglena gracilis	1
Euglena viridis	6
Gomphonema parvulum	1
Melosira varians	2
Navicula cryptocephala	1
Nitzschia acicularis	1
Nitzschia palea	5
Oscillatoria chlorina	2
Oscillatoria limosa	4
Oscillatoria princeps	1
Oscillatoria putrida	1
Oscillatoria tenuis	4
Pandorina morum	3
Scenedesmus quadricauda	4
Stigeoclonium tenue	3
Synedra ulna	3

In analyzing a water sample, any of the 20 genera or species of algae present in concentrations of 50 per milliliter or more are recorded. The pollution index numbers of the algae present are totaled, providing a genus score and a species score. Palmer determined that a score of 20 or more for either index can be taken as evidence of high organic pollution, while a score of 15 to 19 is taken as probable evidence of high organic pollution. Lower figures suggest that the organic pollution of the sample is not high, that the sample is not representative, or that some substance or factor interfering with algal persistence is present and active.

SPECIES DIVERSITY AND ABUNDANCE INDICES

"Information content" of biological samples is being used commonly by biologists as a measure of diversity. Diversity in this connection means the degree of uncertainty attached to the specific identity of any randomly selected individual. The greater the number of taxa and the more equal their proportions, the greater the uncertainty, and hence, the diversity (Pielou 1966). There are several methods of measuring diversity, e.g., the formulas given by Brillouin (1962) and Shannon and Weaver (1963). The method which is appropriate depends on the type of biological sample on hand.

Pielou (1966) classifies the types of biological samples and gives the measure of diversity appropriate for each type. The Survey phytoplankton samples are what she classifies as larger samples (collections in Pielou's terminology) from which random subsamples can be drawn. According to Pielou, the average diversity per individual for these types of samples can be estimated from the Shannon-Wiener formula (Shannon and Weaver 1963):

$$H = -\sum_{i=1}^{S} P_i \log_x P_i$$

Where P is the proportion of the ith taxon in the sample, which is calculated from n_i/N; n_i is the number of individuals per milliliter of the ith taxon; N is the total number of individuals per ml; and S is the total number of taxa.

However, Basharin (1959) and Pielou (1966) have pointed out that H calculated from the subsample is a biased estimator of the sample H, and if this bias is to be accounted for, we must know the total number of taxa present in the sample since the magnitude of this bias depends on it.

Pielou (1966) suggests that if the number of taxa in the subsample falls only slightly short of the number in the larger sample, no appreciable error will result in considering S, estimated

from the subsample, as being equal to the sample value. Even though considerable effort was made to find and identify all taxa, the Survey samples undoubtedly contain a fair number of rare phytoplankton taxa which were not encountered.

In the Shannon-Wiener formula, an increase in the number of taxa and/or an increase in the evenness of the distribution of individuals among taxa will increase the average diversity per individual from its minimal value of zero. Sager and Hasler (1969) found that the richness of taxa was of minor importance in determination of average diversity per individual for phytoplankton and they concluded that phytoplankton taxa in excess of the 10 to 15 most abundant ones have little effect on H, which was verified by our own calculations. Our counts are in number per milliliter and since logarithms to the base 2 were used in our calculations, H is expressed in units of bits per individual. When individuals of a taxon were so rare that they were not counted, a value of 1/130 per milliliter or 0.008 per milliliter was used in the calculations since at least one individual of the taxon must have been present in the collection.

A Survey sample for a given lake represents a composite of all phytoplankton collected at different sampling sites on a lake during a given sampling period. Since the number of samples (M) making up a composite is a function of both the complexity of the lake sampled and its size, it should affect the richness-of-taxa component of the diversity of our phytoplankton collections. The maximum diversity (MaxH) (i.e., when the individuals are distributed among the taxa as evenly as possible) was estimated from $\log_2 S$, the total diversity (D) was calculated from HN, and the evenness component of diversity (J) was estimated from H/MaxH (Pielou 1966). Also given in the Appendix are L (the mean number of individuals per taxa per milliliter) and K (the number of individuals per milliliter of the most abundant taxon in the sample).

Zand (1976) suggests that diversity indices be expressed in units of "sits", i.e., in logarithms to base S (where S is the total number of taxa in the sample) instead of in "bits", i.e., in logarithms to base 2. Zand points out that the diversity index in sits per individual is a normalized number ranging from 1 for the most evenly distributed samples to 0 for the least evenly distributed samples. Also, it can be used to compare different samples, independent of the number of taxa in each. The diversity in bits per individual should not be used in direct comparisons involving various samples which have different numbers of species. Since MaxH equals log S, the expression in sits is equal to $\log_S S$, or 1. Therefore diversity in sits per individual is numerically equivalent to J, the evenness component for the Shannon-Wiener formula.

SPECIES OCCURRENCE AND ABUNDANCE

The alphabetic phytoplankton species list for each lake, presented in the Appendix, gives the concentrations of individual species by sampling date. Concentrations are in cells, colonies, or filaments (CEL, COL, FIL) per milliliter. An "X" after a species name indicates the presence of the species on that date in such a low concentration that it did not show up in the count. A blank space indicates that the organism was not found in the sample collected on that date. Column S is used to designate the examiner's subjective opinion of the five dominant taxa in a sample, based upon relative size and concentration of the organism. The percent column (%C) presents, by abundance, the percentage composition of each taxon.

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APPENDIX. SUMMARY OF PHYTOPLANKTON DATA

This appendix was generated by computer. Because it was only possible to use upper case letters in the printout, all scientific names are printed in upper case and are not italicized.

The alphabetic phytoplankton lists include taxa without species names (e.g., EUNOTIA, EUNOTIA #1, EUNOTIA ?, FLAGELLATE, FLAGELLATES, MICROSYSTIS INCERTA ?, CHLOROPHYTAN COCCOID CELLED COLONY). When species determinations were not possible, symbols or descriptive phrases were used to separate taxa for enumeration purposes. Each name on a list, however, represents a unique species different from any other name on the same list, unless otherwise noted, for counting purposes.

Numbers were used to separate unidentified species of the same genus. A generic name listed alone is also a unique species. A question mark (?) is placed immediately after the portion of a name which was assigned with uncertainty. Numbered, questioned, or otherwise designated taxa were established on a lake-by-lake basis; therefore NAVICULA #2 from lake A cannot be compared to NAVICULA #2 from lake B. Pluralized categories (e.g., FLAGELLATES, CENTRIC DIATOMS, SPP.) were used for counting purposes when taxa could not be properly differentiated on the counting chamber.

LAKE NAME: FISHING CREEK RES.
STORET NUMBER: 4503

NYGAARD TROPHIC STATE INDICES

DATE	04 02 73	07 07 73	09 22 73
MYXOPHYCEAN	03/0 E	03/0 E	0.75 E
CHLOROPHYCEAN	0/0 O	06/0 E	2.75 E
EUGLENOPHYTE	0.33 E	0.22 E	0.14 ?
DIATOM	0.37 E	0.67 E	0.50 E
COMPOUND	10/0 E	19/0 E	5.50 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	04 02 73	07 07 73	09 22 73
GENUS	01	09	06
SPECIES	00	00	04

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		04 02 73	07 07 73	09 22 73
AVERAGE DIVERSITY	H	2.13	3.82	3.87
NUMBER OF TAXA	S	29.00	35.00	43.00
NUMBER OF SAMPLES COMPOSITED	M	3.00	3.00	3.00
MAXIMUM DIVERSITY	MAXH	4.86	5.13	5.43
TOTAL DIVERSITY	D	611.21	2406.60	2325.87
TOTAL NUMBER OF INDIVIDUALS/ML	N	287.00	630.00	601.00
EVENESS COMPONENT	J	0.44	0.74	0.71
MEAN NUMBER OF INDIVIDUALS/TAXA	L	9.90	18.00	13.98
NUMBER/ML OF MOST ABUNDANT TAXON	K	115.00	92.00	105.00

LAKE NAME: FISHING CREEK RES. CONTINUED
STORET NUMBER: 4503

TAXA	FORM	04 02 73 S	04 02 73 %C	04 02 73 ALGAL UNITS PER ML	07 07 73 S	07 07 73 %C	07 07 73 ALGAL UNITS PER ML	09 22 73 S	09 22 73 %C	09 22 73 ALGAL UNITS PER ML
ACHNANTHES LANCEOLATA	CEL						X			X
ACHNANTHES LANCEOLATA V. DUBIA	CEL			X						
ACTINASTRUM HANTZSCHII	CCL								1.3	8
ANABAENA	FIL					2.1	13			
ANKISTRODESMUS FALCATUS	CEL								2.7	16
APHANIZOMENON ? FLOS-AQUAE	FIL	3	19.9	57						
ASTERIONELLA FORMOSA	CEL			X						
CENTRIC DIATOM	CEL			X		2.1	13			
CLOSTERIUM	CEL									X
CLOSTERIUM ACICULARE	CEL									X
COCCONEIS FLUVIATILIS	CEL						X		1.3	8
COSMARIUM	CEL								1.3	8
CRYPTOMONAS	CEL	1	40.1	115						
CRYPTOMONAS #1	CEL								5.3	32
CRYPTOMONAS #2	CEL					6.2	39		1.3	8
CYANOPHYTAN FILAMENT	FIL			X						
CYCLOTELLA	CEL								16.0	96
CYCLOTELLA ATOMUS	CEL					6.2	39			X
CYCLOTELLA STELLIGERA	CEL					2.1	13			
CYMBELLA	CEL									X
CYMBELLA TUMIDA	CEL			X						
CYMBELLA VENTRICOSA	CEL			X						
DINOBRYON BAVARICUM	CEL			X						
DINOFLAGELLATE	CEL								4.0	24
DINOFLAGELLATES	CEL					2.1	13			
EUGLENA	CEL									X
EUGLENA #1	CEL						X			
EUGLENA #2	CEL								1.3	8
FLAGELLATE	CEL					14.6	92		5.3	32
FRUSTULIA	CEL			X						
GOLENKINIA RADIATA	CEL					4.3	27			

LAKE NAME: FISHING CREEK RES.
STORET NUMBER: 4503

CONTINUED

TAXA	FORM	04 02 73 S	%C	ALGAL UNITS PER ML	07 07 73 S	%C	ALGAL UNITS PER ML	09 22 73 S	%C	ALGAL UNITS PER ML
GOMPHONEMA ANGUSTATUM V. PRODUCTA	CEL			X						
GYROSIGMA	CEL									X
HANTZSCHIA	CEL									X
HANTZSCHIA #2	CEL						X			
HYDROSERA	CEL			X						
LEPOCINCLIS	CEL						X			
LYNGBYA LIMNETICA	FIL									X
MELOSIRA	CEL			X						X
MELOSIRA #2	CEL					14.6	92		17.5	105
MELOSIRA DISTANS	CEL	2	19.9	57			X			
MELOSIRA ITALICA	CEL			X						
MELOSIRA VARIANS	CEL	4	10.1	29		4.3	27			X
MERISMOPEDIA TENUISSIMA	COL					6.2	39		2.7	16
MICROSPORA ?	FIL			X						
NAVICULA	CEL			X						X
NAVICULA #1	CEL						X			
NAVICULA #2	CEL									X
NAVICULA #3	CEL						X			
NAVICULA GOTTLANDICA	CEL					2.1	13			
NAVICULA HEUFLERI V. LEPTOCEPHALA	CEL								2.7	16
NAVICULA MUTICA	CEL			X		4.3	27			X
NITZSCHIA	CEL	5	10.1	29		12.5	79			
NITZSCHIA #1	CEL								6.7	40
NITZSCHIA FILIFORMIS ?	CEL			X						
NITZSCHIA HUNGARICA ?	CEL			X						
NITZSCHIA SINUATA	CEL			X						
OSCILLATORIA	FIL			X			X			X
PANDORINA MORUM	COL						X			X
PEDIASTRUM BIRADIATUM V. LONGECORNUTUM	COL						X		1.3	9

LAKE NAME: FISHING CREEK RES. CONTINUED
STORET NUMBER: 4503

TAXA	FORM	04 02 73 S	04 02 73 %C	04 02 73 ALGAL UNITS PER ML	07 07 73 S	07 07 73 %C	07 07 73 ALGAL UNITS PER ML	09 22 73 S	09 22 73 %C	09 22 73 ALGAL UNITS PER ML
PEDIASTRUM DUPLEX										
V. CLATHRATUM	COL						X			
PEDIASTRUM DUPLEX										
V. RETICULATUM	COL									X
PENNATE DIATOM	CEL			X		6.2	39		2.7	16
PINNULARIA	CEL						X			
RHIZOSCLENIA ERIENSIS	CEL						X			
SCENEDESMUS	COL					2.1	13			
SCENEDESMUS #2	COL								2.7	16
SCENEDESMUS ABUNDANS	COL									X
SCENEDESMUS BIJUGA	COL								2.7	16
SCENEDESMUS DENTICULATUS	COL									X
SCENEDESMUS QUADRICAUDA	COL								10.6	64
SCENEDESMUS QUADRICAUDA										
V. LONGISPINA	COL					5.2	39		8.0	48
STAURASTRUM	CEL									X
STEPHANODISCUS	CEL						X		2.7	16
SURIRELLA ANGUSTATA	CEL						X			
SURIRELLA OVATA	CEL			X						
SYNEDRA	CEL			X		2.1	13			
SYNEDRA #1	CEL									X
SYNEDRA ULNA	CEL			X						
TETRAEDRON	CEL						X			
TETRASTRUM HETERACANTHUM	COL									X
TRACHELOMONAS HISPICA	CEL			X						
TOTAL				287			530			501

LAKE NAME: LAKE GREENWOOD
STORET NUMBER: 4504

NYGAARD TROPHIC STATE INDICES

DATE	03 28 73	07 09 73	09 19 73
MYXOPHYCEAN	2.00 E	5.50 E	2.67 E
CHLOROPHYCEAN	5.00 E	6.50 E	1.67 E
EUGLENOPHYTE	0.71 E	0.08 ?	0.15 ?
DIATOM	1.25 E	0.83 E	0.75 E
COMPOUND	17.0 E	15.5 E	7.00 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	03 28 73	07 0. 73	09 19 73
GENUS	05	15	11
SPECIES	00	00	05

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		03 28 73	07 09 73	09 19 73
AVERAGE DIVERSITY	H	3.05	3.58	2.15
NUMBER OF TAXA	S	27.00	43.00	34.00
NUMBER OF SAMPLES COMPOSITED	M	4.00	4.00	4.00
MAXIMUM DIVERSITY	MAXH	4.75	5.49	5.09
TOTAL DIVERSITY	D	2784.65	24623.24	33350.88
TOTAL NUMBER OF INDIVIDUALS/ML	N	913.00	6878.00	15443.00
EVENESS COMPONENT	J	0.64	0.65	0.42
MEAN NUMBER OF INDIVIDUALS/TAXA	L	33.81	152.84	454.21
NUMBER/ML OF MOST ABUNDANT TAXON	K	273.00	2456.00	9263.00

LAKE NAME: LAKE GREENWOOD
STORET NUMBER: 4504

CONTINUED

TAXA	FORM	03 28 73 S	03 28 73 %C	03 28 73 ALGAL UNITS PER ML	07 09 73 S	07 09 73 %C	07 09 73 ALGAL UNITS PER ML	09 19 73 S	09 19 73 %C	09 19 73 ALGAL UNITS PER ML
ACTINASTRUM HANTZSCHII	COL						X			
ANABAENA #1	FIL					1.3	87			
ANABAENA #2	FIL						X			
ANABAENA #3	FIL						X			
ANABAENOPSIS	FIL								4.5	697
ANKISTRODESMUS ?	CEL	5	5.0	46						
ANKISTRODESMUS FALCATUS	CEL						X		1.3	199
ASTERIONELLA	CEL						X			
ASTERIONELLA FORMOSA	CEL		2.5	23						
CENTRIC DIATOM	CEL	2	19.9	182					1.9	299
CERATIUM	CEL					0.4	29			
COELASTRUM CAMBRICUM V. INTERMEDIUM	COL						X			X
COELASTRUM MICROPORUM	COL					0.4	29			
COELASTRUM MICROPORUM ?	COL		2.5	23						
COELASTRUM PROBOSCIDEUM	COL					0.8	58			
COSMARIUM	CEL		2.5	23						X
COSMARIUM #1	CEL					0.8	58			
COSMARIUM #2	CEL					0.8	58			
CRUCIGENIA TETRAPEDIA	COL			X						
CRYPTOMONAS #1	CEL					4.6	318			X
CRYPTOMONAS #2	CEL						X			
CRYPTOMONAS EROSA	CEL	1	29.9	273						
CYANOPHYTAN FILAMENT	FIL								0.6	100
CYCLOTELLA #2	CEL					2.1	144			X
CYCLOTELLA MENEGHINIANA	CEL								0.5	100
CYCLOTELLA STELLIGERA	CEL					9.7	665			
DACTYLOCOCCOPSIS	CEL					1.3	87		11.0	1693
DACTYLOCOCCOPSIS IRREGULARIS	CEL		2.5	23						
DINOFLAGELLATE	CEL					1.3	87			
EUGLENA	CEL			X						
EUGLENA #1	CEL						X			X

LAKE NAME: LAKE GREENWOOD
STORET NUMBER: 4504

CONTINUED

TAXA	FORM	03 28 73 S	03 28 73 %C	03 28 73 ALGAL UNITS PER ML	07 09 73 S	07 09 73 %	07 09 73 ALGAL UNITS PER ML	09 19 73 S	09 19 73 %C	09 19 73 ALGAL UNITS PER ML
EUGLENA #2	CEL						X			
EUGLENA #3	CEL									X
FLAGELLATE	CEL					6.3	433		0.6	100
FRAGILARIA	CEL					1.7	116			
LYNGBYA LIMNETICA	FIL					35.7	2456		2.6	399
MALLOMONAS ACAROIDES	CEL	4	5.0	46						
MELOSIRA #2	CEL					2.5	173			X
MELOSIRA #4	CEL			X		1.3	87			
MELOSIRA DISTANS	CEL	3	15.0	137		2.1	144			
MELOSIRA GRANULATA	CEL			X						
MELOSIRA ITALICA	CEL			X						
MERISMOPEDIA MINIMA	COL					0.4	29			
MERISMOPEDIA TENUISSIMA	COL					0.8	58		0.6	100
MICROCYSTIS INCERTA	COL					0.4	29			
NAVICULA #1	CEL					0.4	29			
NAVICULA #2	CEL									X
NAVICULA ATOMUS	CEL									X
NITZSCHIA #1	CEL			X		6.7	462		1.3	199
NITZSCHIA #2	CEL									X
OSCILLATORIA	FIL					5.3	433			
OSCILLATORIA #1	FIL								11.6	1796
OSCILLATORIA #2	FIL						X			X
OSCILLATORIA LIMNETICA	FIL		7.4	68						
PANDORINA MORUM	COL						X			
PEDIASTRUM DUPLEX V. CLATHRATUM	COL					0.4	29			
PEDIASTRUM DUPLEX V. GRACILIMUM	COL						X			
PENNATE DIATOM #1	CEL									X
PENNATE DIATOM #4	CEL								1.3	199
PENNATE DIATOMS	CEL		2.5	23					1.3	199
PERIDINIUM INCONSPICUUM	CEL			X						

LAKE NAME: LAKE GREENWOOD
STORET NUMBER: 4504

CONTINUED

TAXA	FORM	03 28 73 S	03 28 73 %C	03 28 73 ALGAL UNITS PER ML	07 09 73 S	07 09 73 %C	07 09 73 ALGAL UNITS PER ML	09 19 73 S	09 19 73 %C	09 19 73 ALGAL UNITS PER ML
PERIDINIUM VOLZII	CEL			X						
PHACUS PYRUM ?	CEL			X						
PTEROMONAS ANGULOSA	CEL		2.5	23						
RAPHIDIOPSIS	FIL					6.3	433		60.0	9263
RHIZOSOLENIA ERIENSIS	CEL									X
SCENEDESMUS ABUNDANS	COL					0.4	29			
SCENEDESMUS ACUMINATUS	COL		2.5	23						X
SCENEDESMUS BIJUGA	COL						X			
SCENEDESMUS DENTICULATUS	COL						X			
SCENEDESMUS QUADRICAUDA	COL			X						
SCENEDESMUS QUADRICAUDA V. LONGISPINA	COL					0.4	29			X
SCHROEDERIA SETIGERA	CEL						X			X
STAURASTRUM #2	CEL									X
STAURASTRUM TETRACERUM	CEL								0.6	100
STEPHANODISCUS	CEL									X
SYNEDRA #1	CEL					3.4	231			X
SYNEDRA #2	CEL						X			
SYNEDRA ULNA	CEL			X						
TRACHELOMONAS	CEL			X						
TRACHELOMONAS CAUDATA	CEL			X						
TRACHELOMONAS HISPICA	CEL			X						
TREUBARIA	CEL					0.8	58			
TOTAL				913			6878			15443

LAKE NAME: LAKE BARTHELL
STOREY NUMBER: 4505

NYGAARD TROPHIC STATE INDICES

DATE	06 26 73	09 15 73	11 13 73
MYXOPHYCEAN	05/0 E	0.62 E	4.00 E
CHLOROPHYCEAN	04/0 E	1.00 E	12.0 E
EUGLENOPHYTE	0/09 ?	0/13 ?	0.12 ?
DIATOM	0.62 E	0.40 E	0.60 E
COMPOUND	14/0 E	2.12 E	21.0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	06 26 73	09 15 73	11 13 73
GENUS	02	02	02
SPECIES	00	00	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		06 26 73	09 15 73	11 13 73
AVERAGE DIVERSITY	H	3.02	2.54	3.23
NUMBER OF TAXA	S	28.00	41.00	34.00
NUMBER OF SAMPLES COMPOSITED	M	12.00	12.00	12.00
MAXIMUM DIVERSITY	MAXH	4.81	5.36	5.09
TOTAL DIVERSITY	D	3832.39	4457.70	2593.69
TOTAL NUMBER OF INDIVIDUALS/ML	N	1269.00	1755.00	803.00
EVENESS COMPONENT	J	0.63	0.47	0.63
MEAN NUMBER OF INDIVIDUALS/TAXA	L	45.32	42.90	23.62
NUMBER/ML OF MOST ABUNDANT TAXON	K	507.00	1045.00	181.00

LAKE NAME: LAKE HARTWELL
STORET NUMBER: 4505

CONTINUED

TAXA	FORM	06 26 73 S	06 26 73 %C	06 26 73 ALGAL UNITS PER ML	09 15 73 S	09 15 73 %C	09 15 73 ALGAL UNITS PER ML	11 13 73 S	11 13 73 %C	11 13 73 ALGAL UNITS PER ML
ANABAENA #1	FIL		1.5	19						X
ANABAENA #2	FIL		1.5	19						
ANABAENOPSIS	FIL					5.1	90			
ANKISTRODESMUS	CEL		0.7	9						
ANKISTRODESMUS FALCATUS	CEL			X						X
ASTERIONELLA	CEL								1.6	13
ASTERIONELLA FORMOSA	CEL			X		3.2	56			
ATTHEYA	CEL						X			
CERATIUM HIRUNDINELLA	CEL			X						X
CHROCCOCCUS	COL					1.3	23			
COSMARIUM #1	CEL					0.6	11			
COSMARIUM #2	CEL					0.6	11			
COSMARIUM #3	CEL						X			
COSMARIUM #4	CEL						X			
CRUCIGENIA TETRAPEDIA	COL								3.2	26
CRYPTOMONAS #1	CEL								1.6	13
CRYPTOMONAS #2	CEL			X						
CYCLOTELLA STELLIGERA	CEL		7.4	94			X		11.3	91
DACTYLOCOCCOPSIS	CEL					0.6	11		3.2	26
DINOBRYON	CEL			X						X
DINOBRYON BAVARICUM	CEL					1.3	23			
DINOFLAGELLATE #1	CEL		3.0	38		1.3	23			
DINOFLAGELLATE #2	CEL									X
DINOFLAGELLATE #3	CEL								3.2	26
EUGLENA	CEL									X
EUNOTIA FLEXUOSA	CEL						X			
FLAGELLATES	CEL		11.8	150		5.8	101		3.2	26
FRANCEIA	CEL									X
GOLENKINIA RADIATA	CEL					2.6	45			
LYNGBYA LIMNETICA	FIL		3.0	38		59.5	1045			X
MALLOMONAS	CEL					1.9	34			
MALLOMONAS PSEUDOCORONATA	CEL								1.6	13

LAKE NAME: LAKE HARTWELL
STORET NUMBER: 4505

CONTINUED

TAXA	FORM	06 26 73 S	06 26 73 %C	06 26 73 ALGAL UNITS PER ML	09 15 73 S	09 15 73 %C	09 15 73 ALGAL UNITS PER ML	11 13 73 S	11 13 73 %C	11 13 73 ALGAL UNITS PER ML
MELOSIRA #2	CEL		9.6	122			X		22.5	181
MELOSIRA DISTANS	CEL		9.9	113					20.9	168
MELOSIRA VARIANS	CEL		0.7	9						
MERISMOPEDIA MINIMA	COL						X			
MERISMOPEDIA TENUISSIMA	COL									X
NAVICULA	CEL		0.7	9						
NAVICULA #1	CEL			X						X
NAVICULA #3	CEL						X			
NAVICULA NOTHA ?	CEL			X			X			
NITZSCHIA	CEL			X		1.9	34			
OOCYSTIS	CEL									X
OSCILLATORIA	FIL			X						
OSCILLATORIA #1	FIL		3.0	38						
PEDIASTRUM DUPLEX V. CLATHRATUM	COL								1.6	13
PEDIASTRUM TETRAS V. TETRAODON	COL						X		1.6	13
PENNATE DIATOM #4	CEL						X			
PERIDINIUM #2	CEL						X			
PERIDINIUM WISCONSINENSE	CEL		3.0	38		1.9	34			
PHACUS PYRUM	CEL									X
PINNULARIA	CEL						X			
RHIZOSCLENIA ERIENSIS	CEL			X			X			
SCENEDESMUS	COL						X			
SCENEDESMUS ABUNDANS	COL						X		4.9	39
SCENEDESMUS ACUMINATUS	COL						X			
SCENEDESMUS ACUMINATUS V. BERNARDII	COL			X						
SCENEDESMUS BIJUGA	COL									X
SCENEDESMUS DISPAR	COL									X
SCENEDESMUS QUADRICAUDA	COL						X			X
SELENASTRUM ?	COL									X

LAKE NAME: LAKE HARTWELL
STORET NUMBER: 4505

CONTINUED

TAXA	FORM	06 26 73 S	06 26 73 %C	06 26 73 ALGAL UNITS PER ML	09 15 73 S	09 15 73 %C	09 15 73 ALGAL UNITS PER ML	11 13 73 S	11 13 73 %C	11 13 73 ALGAL UNITS PER ML
STAURASTRUM #1	CEL					1.3	23			
STAURASTRUM CUSPIDATUM V. DIVERGENS	CEL						X			X
STAURASTRUM PARADOXUM V. PARVUM	CEL					4.5	79			
STAURASTRUM TETRACERUM	CEL						X			
SYNEDRA #1	CEL		3.0	38		3.2	56		3.2	26
SYNEDRA #2	CEL			X		0.6	11			X
TABELLARIA FENESTRATA	CEL		40.0	507		2.6	45		16.1	129
TETRAEDRON MINIMUM	CEL		2.2	28						
TETRAEDRON PLANCTONICUM	CEL						X			
TETRAEDRON TRIGONUM	CEL									X
TRFUBARIA	CEL						X			
TOTAL				1259			1755			903

LAKE NAME: LAKE MARION
STORET NUMBER: 4505

NYGAARD TROPHIC STATE INDICES

DATE	03 27 73	07 10 73	09 22 73
MYXOPHYCEAN	4.00 E	3.00 E	2.25 E
CHLOROPHYCEAN	15.0 E	8.50 E	4.00 E
EUGLENOPHYTE	0.11 ?	0.17 ?	0.12 ?
DIATOM	0.47 E	0.90 E	0.62 E
COMPOUND	33.0 E	18.0 E	9.25 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	03 27 73	07 10 73	09 22 73
GENUS	07	25	22
SPECIES	02	07	07

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		03 27 73	07 10 73	09 22 73
AVERAGE DIVERSITY	H	3.72	4.12	3.84
NUMBER OF TAXA	S	57.00	54.00	51.00
NUMBER OF SAMPLES COMPOSITED	M	6.00	6.00	6.00
MAXIMUM DIVERSITY	MAXH	5.83	5.75	5.67
TOTAL DIVERSITY	D	12863.76	23764.16	22475.52
TOTAL NUMBER OF INDIVIDUALS/ML	N	3458.00	5768.00	5853.00
EVENESS COMPONENT	J	0.64	0.72	0.68
MEAN NUMBER OF INDIVIDUALS/TAXA	L	60.67	106.81	114.76
NUMBER/ML OF MOST ABUNDANT TAXON	K	789.00	1154.00	1493.00

LAKE NAME: LAKE MARION
STORET NUMBER: 4506

CONTINUED

TAXA	FORM	03 27 73 S	03 27 73 %C	03 27 73 ALGAL UNITS PER ML	07 10 73 S	07 10 73 %C	07 10 73 ALGAL UNITS PER ML	09 22 73 S	09 22 73 %C	09 22 73 ALGAL UNITS PER ML
ACHNANTHES LANCEOLATA	CEL						X			
ACHNANTHES MICROCEPHALA	CEL			X			X		0.7	42
AMPHIPRORA	CEL			X						
ANABAENA #1	FIL					0.6	36			X
ANABAENA #2	FIL					1.9	108			X
ANABAENOPSIS	FIL							5	5.8	339
ANKISTRODESMUS ?	CEL		5.5	189						
ANKISTRODESMUS FALCATUS	CEL			X		1.2	72		2.2	127
ASTERIONELLA	CEL								1.5	85
ASTERIONELLA FORMOSA	CEL		3.6	126						
ASTERIONELLA FORMOSA V. GRACILLIMA	CEL						X			
ATTHEYA	CEL						X			
BOTRYOCOCCUS BRAUNII	COL									X
CHLAMYDOMONAS	CEL			X						
CHLAMYDOMONAS #1	CEL					1.9	108			
CHLAMYDOMONAS #2	CEL									X
CHROOCOCCUS	COL		0.5	16						
CLOSTERIUM	CEL						X			
COCCONEIS	CEL			X		0.6	36			
COELASTRUM	COL					1.2	72		1.5	85
COSMARIUM	CEL									X
CRUCIGENIA TETRAPEDIA	COL			X			X			
CRYPTOMONAS #1	CEL					3.1	180		2.9	170
CRYPTOMONAS EROSA	CEL	3	5.0	173						
CRYPTOMONAS REFLEXA	CEL	1	0.5	16						
CYANOPHYTAN FILAMENT	FIL									X
CYCLOTELLA #1	CEL					3.7	216		0.7	42
CYCLOTELLA MENEGHINIANA	CEL					0.6	36			
CYCLOTELLA STELLIGERA	CEL		0.9	31		1.9	108			X
CYMATOPLEURA ?	CEL			X						
CYMBELLA	CEL			X						

LAKE NAME: LAKE MARION
STORET NUMBER: 4505

CONTINUED

TAXA	FORM	03 27 73 S	03 27 73 %C	03 27 73 ALGAL UNITS PER ML	07 10 73 S	07 10 73 %C	07 10 73 ALGAL UNITS PER ML	09 22 73 S	09 22 73 %C	09 22 73 ALGAL UNITS PER ML
DACTYLOCOCCOPSIS	CEL		5.1	179	4	14.4	830	1	25.4	1485
DICTYOSPHAERIUM PULCHELLUM	COL			X		0.5	36			X
DINOBRYON	CEL					0.6	36			
DINOFLAGELLATE	CEL					0.6	36			
DINOFLAGELLATE #1	CEL								1.5	85
DINOFLAGELLATE #2	CEL									X
EUASTRUM	CEL								0.7	42
EUGLENA	CEL			X						
EUGLENA #1	CEL					0.6	36		2.9	170
EUGLENA #2	CEL					0.5	36			X
FLAGELLATE #1	CEL		14.6	505						
FLAGELLATES	CEL				5	6.9	397	2	13.1	764
FRAGILARIA	CEL									X
FRAGILARIA CROTONENSIS	CEL			X						
FRANCEIA	CEL						X			
FRUSTULIA	CEL			X						
GLENODINIUM ?	CEL			X						
GLENODINIUM OCULATUM ?	CEL		0.5	16						
GOLENKINIA	CEL					1.2	72			X
GOMPHONEMA	CEL			X						
GOMPHONEMA #2	CEL			X						
GYMNODINIUM	CEL		0.5	16						
KIRCHNERIELLA	CEL			X		1.2	72			
LYNGBYA LIMNETICA	FIL				1	20.0	1154	3	11.6	679
MELOSIRA #2	CEL				2	11.3	649		1.5	85
MELOSIRA #3	CEL					1.2	72		5.1	297
MELOSIRA #4	CEL		0.5	16						
MELOSIRA DISTANS	CEL	4	22.8	789		5.0	299		0.7	42
MELOSIRA GRANULATA	CEL			X						
MELOSIRA GRANULATA V. ANGUSTISSIMA	CEL		2.7	95						
MELOSIRA ITALICA	CEL	2	7.8	269						

LAKE NAME: LAKE MARION
STORET NUMBER: 4506

CONTINUED

TAXA	FORM	03 27 73 S	03 27 73 %C	03 27 73 ALGAL UNITS PER ML	07 10 73 S	07 10 73 %C	07 10 73 ALGAL UNITS PER ML	09 22 73 S	09 22 73 %C	09 22 73 ALGAL UNITS PER ML
MELOSIRA VARIANS	CEL	1	6.4	221			X			
MERISMOPEDIA TENUISSIMA	COL								0.7	42
MESOSTIGMA	CEL					1.9	108			
NAVICULA	CEL									X
NAVICULA ?	CEL			X						
NAVICULA #1	CEL			X		0.6	36			
NAVICULA #2	CEL			X						
NAVICULA RHYNCHOCEPHALA V. GERMAINII	CEL						X			
NITZSCHIA	CEL			X						
NITZSCHIA #1	CEL									X
NITZSCHIA #2	CEL				3	6.9	397		2.9	170
NITZSCHIA ACICULARIS	CEL			X						
OPHIOCYTIUM ?	CEL								0.7	42
OSCILLATORIA	FIL			X		1.2	72		1.5	85
OSCILLATORIA LIMNETICA	FIL		0.9	31						
PEDIASTRUM DUPLEX V. CLATHRATUM	COL						X			
PEDIASTRUM DUPLEX V. GRACILIMUM	COL						X			
PEDIASTRUM TETRAS V. TETRAODON	COL			X						X
PENNATE DIATOM #2	CEL		8.2	284		3.1	180			
PENNATE DIATOMS	CEL		5.5	189						
PHACUS	CEL		0.5	16						
PHACUS #1	CEL					0.6	36		0.7	42
PHACUS PYRUM	CEL						X			
RAPHIDIOPSIS	FIL						X			
RAPHIDIOPSIS ?	FIL							4	8.0	457
RHIZOSOLENIA ERIENSIS	CEL						X			
SCENEDESMUS	COL		1.4	47						
SCENEDESMUS ABUNDANS	COL		1.4	47		1.2	72		0.7	42

LAKE NAME: LAKE MARION
STORET NUMBER: 4506

CONTINUED

TAXA	FORM	03 27 73 S	03 27 73 %C	03 27 73 ALGAL UNITS PER ML	07 10 73 S	07 10 73 %C	07 10 73 ALGAL UNITS PER ML	09 22 73 S	09 22 73 %C	09 22 73 ALGAL UNITS PER ML
SCENEDESMUS ARMATUS V. BICAUDATUS	COL			X						
SCENEDESMUS ARMATUS V. BOGLARIENSIS	COL									X
SCENEDESMUS BICAUDATUS	COL					0.6	36			
SCENEDESMUS BIJUGA ?	COL						X			X
SCENEDESMUS DENTICULATUS	COL									X
SCENEDESMUS DIMORPHUS	COL			X						
SCENEDESMUS INTERMEDIUS	COL			X						
SCENEDESMUS PROTUBERANS	COL		0.5	16						
SCENEDESMUS PROTUBERANS ?	COL						X			X
SCENEDESMUS QUADRICAUDA	COL			X		1.2	72		1.5	85
SCHROEDERIA	CEL									X
SCHROEDERIA SETIGERA	CEL						X		0.7	42
STAURASTRUM #1	CEL									X
STAURASTRUM #2	CEL									X
STAURASTRUM PARADOXUM V. PARVUM	CEL						X			
STAURASTRUM TETRACERUM	CEL			X						
STEPHANODISCUS	CEL		4.5	158						
STEPHANODISCUS ASTRAEA	CEL		0.5	16						
SYNEDRA #1	CEL								1.5	85
SYNEDRA #2	CEL								2.9	170
SYNEDRA DELICATISSIMA	CEL					0.6	36			
SYNEDRA ULNA	CEL			X						
TABELLARIA	CEL						X			
TABELLARIA FLOCCULOSA	CEL			X						
TETRAEDRON MINIMUM	CEL					0.6	36			
TETRAEDRON MINIMUM V. SCROBICULATUM	CEL			X						
TETRAEDRON TRIGONUM V. GRACILE	CEL			X						

LAKE NAME: LAKE MARION
STORET NUMBER: 4506

CONTINUED

TAXA	FORM	03 27 73 S	03 27 73 %C	03 27 73 ALGAL UNITS PER ML	07 10 73 S	07 10 73 %C	07 10 73 ALGAL UNITS PER ML	09 22 73 S	09 22 73 %C	09 22 73 ALGAL UNITS PER ML
TETRASTRUM HETERACANTHUM	COL						X			X
TREUBARIA	CEL								0.7	42
TOTAL				3458			5768			5853

LAKE NAME: LAKE MURRAY
STORET NUMBER: 4507

NYGAARD TROPHIC STATE INDICES

DATE	03 27 73	07 07 73	09 22 73
MYXOPHYCEAN	01/0 E	2.20 E	1.00 E
CHLOROPHYCEAN	08/0 E	1.80 E	1.83 E
EUGLENOPHYTE	0/09 ?	0.15 ?	0.06 ?
DIATOM	1.00 E	0.37 E	0.67 E
COMPOUND	15/0 E	5.20 E	3.67 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	03 27 73	07 07 73	09 22 73
GENUS	06	14	08
SPECIES	00	00	03

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		03 27 73	07 07 73	09 22 73
AVERAGE DIVERSITY	H	3.10	3.65	3.15
NUMBER OF TAXA	S	28.00	47.00	38.00
NUMBER OF SAMPLES COMPOSITED	M	7.00	7.00	7.00
MAXIMUM DIVERSITY	MAXH	4.81	5.55	5.25
TOTAL DIVERSITY	D	5854.10	40993.15	16420.95
TOTAL NUMBER OF INDIVIDUALS/ML	N	2211.00	11231.00	5213.00
EVENESS COMPONENT	J	0.64	0.66	0.60
MEAN NUMBER OF INDIVIDUALS/TAXA	L	78.96	238.96	137.18
NUMBER/ML OF MOST ABUNDANT TAXON	K	669.00	2429.00	1321.00

LAKE NAME: LAKE MURRAY
STORET NUMBER: 4507

CONTINUED

TAXA	FORM	03 27 73 S	03 27 73 %C	03 27 73 ALGAL UNITS PER ML	07 07 73 S	07 07 73 %C	07 07 73 ALGAL UNITS PER ML	09 22 73 S	09 22 73 %C	09 22 73 ALGAL UNITS PER ML
ANABAENA	FIL						X	1	6.6	345
ANABAENA #1	FIL				2	12.0	1350			
ANABAENA #2	FIL					0.5	54			
ANKISTRODESMUS FALCATUS	CEL			X					1.1	58
ASTERIONELLA FORMOSA	CEL		1.6	35						
CERATIUM HIRUNDINELLA	CEL						X			
CHLAMYDOMONAS	CEL		3.0	66						
CHLAMYDOMONAS ?	CEL		0.4	9						
CHROOCOCCUS	COL					0.5	54	5	5.5	287
CLOSTERIUM	CEL						X			
COELASTRUM	COL						X			
COELASTRUM PROBOSCIDEUM	COL									X
COELOSPHAERIUM NAEGELIANUM	COL						X			
COSMARIUM	CEL								1.6	86
COSMARIUM #1	CEL					0.5	54			X
COSMARIUM #2	CEL								0.6	29
CRUCIGENIA	COL									X
CRYPTOMONAS EROSA	CEL	1	12.6	278						
CRYPTOMONAS REFLEXA	CEL			X						
CYCLOTELLA	CEL				3	12.0	1350		0.6	29
CYCLOTELLA STELLIGERA	CEL		2.8	62		0.5	54			
DACTYLOCOCCOPSIS	CEL		1.6	35		5.8	648	4	25.3	1321
DACTYLOCOCCOPSIS FASCICULARIS ?	CEL						X			
DICTYOSPHAERIUM PULCHELLUM	COL		0.4	9						
DINOBRYON ?	CEL			X						
DINOFLAGELLATE	CEL								3.6	196
DINOFLAGELLATE #1	CEL						X			
DINOFLAGELLATE #2	CEL					0.5	54			
DINOFLAGELLATE #3	CEL					2.4	270			
EUDORINA	COL						X			
EUGLENA #1	CEL						X			
EUGLENA #2	CEL						X			

LAKE NAME: LAKE MURRAY
STORET NUMBER: 4507

CONTINUED

TAXA	FORM	03 27 73 S	03 27 73 %C	03 27 73 ALGAL UNITS PER ML	07 07 73 S	07 07 73 %C	07 07 73 ALGAL UNITS PER ML	09 22 73 S	09 22 73 %C	09 22 73 ALGAL UNITS PER ML
FLAGELLATE	CEL					6.3	702			
FLAGELLATE #1	CEL	5	30.3	559		5.8	648		2.2	115
FLAGELLATE #2	CEL								2.8	144
FRAGILARIA	CEL					5.8	648			
FRAGILARIA CROTONENSIS	CEL		6.2	138			X			
FRANCEIA OVALIS	CEL					0.5	54			
GLENODINIUM	CEL		0.4	9						
KIRCHNERIELLA	CEL		1.2	27						X
LYNGBYA	FIL				4	9.1	1026			
LYNGBYA LIMNETICA	FIL							2	18.7	976
MELOSIRA	CEL			X			X			X
MELOSIRA #4	CEL		0.6	13						
MELOSIRA DISTANS	CEL	4	19.1	423					3.3	172
MELOSIRA ITALICA	CEL	3	10.6	234						
MERISMOPEDIA	COL					0.5	54			
MERISMOPEDIA TENUISSIMA	COL						X			
MICRACTINIUM PUSILLUM	COL						X			
NAVICULA	CEL			X			X			
NAVICULA ?	CEL									X
NITZSCHIA	CEL				1	21.6	2429			
NITZSCHIA #1	CEL									X
NITZSCHIA #2	CEL									X
OOCYSTIS	CEL						X			
OSCILLATORIA LIMNETICA	FIL					1.9	216			X
PANDORINA MORUM	COL						X			
PEDIASTRUM BIRADIATUM V. ?	COL									X
PEDIASTRUM DUPLEX V. GRACILIMUM	COL						X			
PEDIASTRUM TETRAS V. TETRAODON	COL									X
PENNATE DIATOM #1	CEL						X		2.2	115

LAKE NAME: LAKE MURRAY
STORET NUMBER: 4507

CONTINUED

TAXA	FORM	03 27 73 S	03 27 73 %C	03 27 73 ALGAL UNITS PER ML	07 07 73 S	07 07 73 %C	07 07 73 ALGAL UNITS PER ML	09 22 73 S	09 22 73 %C	09 22 73 ALGAL UNITS PER ML
PENNATE DIATOM #4	CEL					3.8	432			
PENNATE DIATOMS	CEL		3.6	80						
PERIDINIUM	CEL									X
PHACUS PYRUM	CEL					0.5	54			X
PINNULARIA	CEL			X						
RAPHIDIOPSIS	FIL							3	22.0	1148
RHIZOSCLENIA ERIENSIS	CEL									X
SCENEDESMUS	COL								1.6	86
SCENEDESMUS #1	COL						X			
SCENEDESMUS #2	COL						X			
SCENEDESMUS #7	COL									X
SCENEDESMUS ARCUATUS	COL		0.4	9						
SCENEDESMUS DENTICULATUS	COL									X
SCENEDESMUS DISPAR	COL						X			
SCENEDESMUS PROTUBERANS	COL			X						
SCENEDESMUS QUADRICAUDA	COL		0.4	9						
STAURASTRUM	CEL						X			X
STAURASTRUM #1	CEL					0.5	54			X
STAURASTRUM #2	CEL					0.5	54			
STAURASTRUM TETRACERUM	CEL									X
STEPHANODISCUS ASTRAEA	CEL	2	4.8	106						
SYNEDRA	CEL				5	6.7	756		0.6	29
SYNEDRA DELICATISSIMA V. ANGUSTISSIMA	CEL			X						
TABELLARIA	CEL						X			
TABELLARIA FENESTRATA ?	CEL								1.1	58
TETRAEDRON	CEL									X
TETRAEDRON MINIMUM	CEL								0.6	29
TETRAEDRON MINIMUM V. SCROBICULATUM	CEL			X						
TETRASTRUM HETERACANTHUM	COL					1.9	216			
TREUBARIA TRIAPPENDICULATA	CEL			X						
TOTAL				2211			11231			5213

LAKE NAME: LAKE ROBINSON
STORET NUMBER: 4508

NYGAARD TROPHIC STATE INDICES

DATE	03 22 73	07 06 73	09 21 73
MYXOPHYCEAN	0/04 O	0.06 O	0/14 O
CHLOROPHYCEAN	0.75 E	0.37 ?	0.36 ?
EUGLENOPHYTE	0/03 ?	0.29 E	0.40 E
DIATOM	0/09 ?	0/07 ?	0/04 ?
COMPOUND	0.75 O	0.56 O	0.50 O

PALMER'S ORGANIC POLLUTION INDICES

DATE	03 22 73	07 06 73	09 21 73
GENUS	00	02	05
SPECIES	00	00	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		03 22 73	07 06 73	09 21 73
AVERAGE DIVERSITY	H	0.47	0.95	2.38
NUMBER OF TAXA	S	20.00	39.00	25.00
NUMBER OF SAMPLES COMPOSITED	M	3.00	3.00	3.00
MAXIMUM DIVERSITY	MAXH	4.32	5.29	4.64
TOTAL DIVERSITY	D	2509.33	6005.90	52436.16
TOTAL NUMBER OF INDIVIDUALS/ML	N	5339.00	6322.00	22032.00
EVENESS COMPONENT		0.11	0.18	0.51
MEAN NUMBER OF INDIVIDUALS/TAXA	L	266.95	162.10	881.28
NUMBER/ML OF MOST ABUNDANT TAXON	K	5023.00	5572.00	9506.00

LAKE NAME: LAKE ROBINSON
STORET NUMBER: 4509

CONTINUED

TAXA	FORM	03 22 73 S	03 22 73 %C	03 22 73 ALGAL UNITS PER ML	07 06 73 S	07 06 73 %C	07 06 73 ALGAL UNITS PER ML	09 21 73 S	09 21 73 %C	09 21 73 ALGAL UNITS PER ML
ANKISTRODESMUS ?	CEL		0.9	47						
ARTHRODESMUS	CEL						X			X
ARTHRODESMUS INCUS	CEL			X						
ASTERIONELLA	CEL								0.1	32
ASTERIONELLA FORMOSA	CEL			X						
ASTERIONELLA RALFSII	CEL					88.1	5572			
CLOSTERIUM #1	CEL								8.9	1971
CLOSTERIUM #2	CEL					0.4	23		3.2	700
CLOSTERIUM #3	CEL						X			
COELASTRUM CAMBRICUM	COL									X
COSMARIUM	CEL	1	94.1	5023						
COSMARIUM #1	CEL								43.1	9506
COSMARIUM #2	CEL	5	1.7	93						
COSMARIUM TENUE	CEL					0.4	23		2.0	445
CRUCIGENIA TETRAPEDIA	COL		0.2	12		0.4	23			
CRYPTOMONAS #1	CEL						X			
CRYPTOMONAS EROSA	CEL	3	1.1	58						
CYMBELLA ?	CEL			X						
DESMID	CEL								2.2	477
DICTYOSPHAERIUM PULCHELLUM	COL					0.4	23			
DINOBRYON CAMPANULOSTIPITUM	CEL			X						
DINOBRYON SERTULARIA	CEL						X			
DINOFLAGELLATE	CEL					0.4	23			
EUDORINA	COL						X			
EUGLENA	CEL						X			X
EUNOTIA FLEXUOSA	CEL			X						
EUNOTIA PECTINALIS	CEL			X						
EUNOTIA PECTINALIS V. ?	CEL						X			
FLAGELLATES	CEL					1.1	68			
FRUSTULIA	CEL			X						
GLENODINIUM OCULATUM ?	CEL			X						

LAKE NAME: LAKE ROBINSON
STORET NUMBER: 4508

CONTINUED

TAXA	FORM	03 22 73 S	03 22 73 %C	03 22 73 ALGAL UNITS PER ML	07 06 73 S	07 06 73 %C	07 06 73 ALGAL UNITS PER ML	09 21 73 S	09 21 73 %C	09 21 73 ALGAL UNITS PER ML
ECLENKINIA PAUCISPINA	CEL						X			X
GYMNODINIUM AERUGINOSUM	CEL	2	1.5	92						
GYROSIGMA	CEL						X			
MALLOMONAS	CEL					1.1	68			
MICROCYSTIS INCERTA	COL						X			
NAVICULA CUSPIDATA	CEL						X			X
OOCYSTIS PARVA	CEL					1.8	113			
PEDIASTRUM DUPLEX V. RETICULATUM	COL									X
PERIDIUM ?	CEL						X			
PINNULARIA MESOLEPTA	CEL			X						
SCENEDESMUS ACUMINATUS	COL									X
SCENEDESMUS BIJUGA	COL		0.2	12		0.4	23		0.3	63
SCENEDESMUS DENTICULATUS V. LINEARIS	COL						X			
SPHAEROZOSMA GRANULATUM	CEL						X		26.6	5850
STAURASTRUM	CEL						X			
STAURASTRUM #1	CEL						X			X
STAURASTRUM #2	CEL								4.8	1049
STAURASTRUM #3	CEL								0.1	32
STAURASTRUM #4	CEL					1.4	91			
STAURASTRUM #5	CEL					0.4	23			
STAURASTRUM #6	CEL						X			
STAURASTRUM APICULATUM	CEL									X
STAURASTRUM BRACHIATUM	CEL			X						
STAURASTRUM DEJECTUM	CEL					0.4	23		3.0	668
STAURASTRUM GRANULATUS	CEL						X			
STAURASTRUM MARGARITACEUM	CEL					0.7	45			
STAURASTRUM MARGARITACEUM ?	CEL									X
STAURASTRUM TETRACERUM	CEL						X		5.6	1239
STAURONEIS	CEL			X						
STAURONEIS ANCEPS V. GRACILIS	CEL						X			

LAKE NAME: LAKE ROBINSON
STORET NUMBER: 4508

CONTINUED

TAXA	FORM	03 22 73 S	03 22 73 %C	03 22 73 ALGAL UNITS PER ML	07 06 73 S	07 06 73 %C	07 06 73 ALGAL UNITS PER ML	09 21 73 S	09 21 73 %C	09 21 73 ALGAL UNITS PER ML
SYNEDRA	CEL					2.2	136			
TABELLARIA	CEL						X			
TABELLARIA FENESTRATA	CEL			X						
TABELLARIA FENESTRATA ?	CEL									X
TABELLARIA FLOCCULOSA	CEL	4	0.2	12						X
TRACHELOMONAS SUPERBA	CEL						X			X
ULOTHRIX SUBTILISSIMA	FIL					0.7	45			
XANTHIDIUM ANTILOPAEUM V. ?	CEL						X			
TOTAL				5339			6322			22032

LAKE NAME: LAKE WATEREE
STORET NUMBER: 4510

NYGAARD TROPHIC STATE INDICES

DATE	03 30 73	07 06 73	09 21 73
MYXOPHYCEAN	02/0 E	5.50 E	3.00 E
CHLOROPHYCEAN	04/0 E	7.00 E	4.25 E
EUGLENOPHYTE	0.33 E	0.06 ?	0.07 ?
DIATOM	0.40 E	0.87 E	1.00 E
COMPOUND	12/0 E	20.0 E	9.25 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	03 30 73	07 06 73	09 21 73
GENUS	14	28	09
SPECIES	00	06	04

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		03 30 73	07 06 73	09 21 73
AVERAGE DIVERSITY	H	3.91	4.48	3.47
NUMBER OF TAXA	S	34.00	57.00	54.00
NUMBER OF SAMPLES COMPOSITED	M	4.00	4.00	4.00
MAXIMUM DIVERSITY	MAXH	5.09	5.83	5.75
TOTAL DIVERSITY	D	9765.03	32206.72	16999.53
TOTAL NUMBER OF INDIVIDUALS/ML	N	2563.00	7189.00	4899.00
EVENESS COMPONENT	J	0.75	0.77	0.60
MEAN NUMBER OF INDIVIDUALS/TAXA	L	75.38	126.12	90.72
NUMBER/ML OF MOST ABUNDANT TAXON	K	407.00	860.00	1493.00

LAKE NAME: LAKE WATERSE
STORET NUMBER: 4510

CONTINUED

TAXA	FORM	03 30 73 S	03 30 73 %C	03 30 73 ALGAL UNITS PER ML	07 06 73 S	07 06 73 %C	07 06 73 ALGAL UNITS PER ML	09 21 73 S	09 21 73 %C	09 21 73 ALGAL UNITS PER ML
ACHNANTHES LANCEOLATA V. DUBIA	CEL						X			
ACHNANTHES LANCEOLATA V. LANCEOLATOIDES	CEL									X
ANABAENA ? #1	FIL							2	14.6	717
ANABAENA #1	FIL					4.2	304			
ANABAENA #2	FIL									X
ANABAENA #3	FIL						X			
ANABAENA #4	FIL						X			
ANABAENOPSIS #1	FIL						X		4.3	209
ANABAENOPSIS #2	FIL					1.4	101			X
ANKISTRODESMUS ? FALCATUS	CEL									X
ASTERIONELLA FORMOSA	CEL		0.4	11						
CARTERIA KLEBSII	CEL			X						
CENTRIC DIATOM	CEL						X			
CERATIUM	CEL					0.7	51			
CHLAMYDOMONAS	CEL	3	5.5	143		1.4	101			
CHLOROGONIUM	CEL		1.7	44						X
CHROOCOCCUS	COL						X			
CLOSTERIUM ?	CEL									X
CLOSTERIUM #1	CEL				5	5.6	405			X
CLOSTERIUM #2	CEL						X			
COCCOID COLONY	COL		0.9	22						
COELASTRUM	COL					0.7	51			
COSMARIUM	CEL								0.6	30
CRUCIGENIA APICULATA	COL					0.7	51			X
CRUCIGENIA TETRAPEDIA	COL									X
CRYPTOMONAS #1	CEL					3.5	253		1.9	90
CRYPTOMONAS #2	CEL									X
CRYPTOMONAS EROSA	CEL			X						
CRYPTOMONAS SPP.	CEL	4	13.3	341						
CYANOPHYTAN FILAMENT	FIL		3.9	99						X

LAKE NAME: LAKE WATEREE
STORET NUMBER: 4510

CONTINUED

TAXA	FORM	03 30 73 S	03 30 73 %C	03 30 73 ALGAL UNITS PER ML	07 06 73 S	07 06 73 %C	07 06 73 ALGAL UNITS PER ML	09 21 73 S	09 21 73 %C	09 21 73 ALGAL UNITS PER ML
CYCLOTELLA #1	CEL					5.6	405	4	7.9	388
CYCLOTELLA STELLIGERA	CEL	5	6.9	176		4.2	304			
CACTYLCCCCCOPSIS	CEL		5.0	231		3.5	253	1	30.5	1493
DINOFLAGELLATE	CEL					1.4	101		0.6	30
EUASTRUM	CEL								0.6	30
EUGLENA	CEL		4.3	110			X			X
EUGLENA #1	CEL					0.7	51			
FLAGELLATE #1	CEL						X			
FLAGELLATE #2	CEL		2.6	66						
FLAGELLATE #3	CEL		11.2	286						
FLAGELLATES	CEL					6.3	455	5	7.3	359
GOMPHONEMA ACUMINATUM V. PRODUCTA	CEL			X						
GOMPHONEMA CLIVACEUM	CEL			X						
GONIUM PECTORALE	COL									X
GYROSIGMA	CEL			X						
HANTZSCHIA VIRGATA	CEL		0.4	11						
KIRCHNERIELLA	CEL		0.4	11		0.7	51		1.2	60
LAGERHEIMIA	CEL			X						
LYNGBYA LIMNETICA	FIL					0.7	51		1.2	60
MALLOMONAS	CEL		4.3	110						
MELOSIRA #2	CEL				1	12.0	960			X
MELOSIRA #3	CEL					1.4	101		4.3	209
MELOSIRA #4	CEL					1.4	101			X
MELOSIRA DISTANS	CEL	2	15.9	407		1.4	101			X
MELOSIRA GRANULATA	CEL	1	4.6	220						
MELOSIRA ITALICA	CEL			X						
MELOSIRA VARIANS	CEL									X
MERISMOPEDIA MINIMA	COL					0.7	51		1.2	60
MERISMOPEDIA PUNCTATA	COL						X			
MERISMOPEDIA TENUISSIMA	COL				4	9.2	658		2.4	115
MICROCYSTIS INCERTA	COL					2.8	202			X

LAKE NAME: LAKE WATEREE
STORET NUMBER: 4510

CONTINUED

TAXA	FORM	03 30 73 S	03 30 73 %C	03 30 73 ALGAL UNITS PER ML	07 06 73 S	07 06 73 %C	07 06 73 ALGAL UNITS PER ML	09 21 73 S	09 21 73 %C	09 21 73 ALGAL UNITS PER ML
NAVICULA	CEL						X			
NAVICULA #1	CEL			X						X
NAVICULA #2	CEL			X						X
NAVICULA #3	CEL			X						
NAVICULA MUTICA	CEL						X			X
NAVICULA SPP.	CEL		4.7	121						
NITZSCHIA	CEL			X						
NITZSCHIA #1	CEL				2	8.4	607		6.1	299
OSCILLATORIA #1	FIL								0.6	30
OSCILLATORIA LIMNETICA	FIL				3	8.4	607			
PANDORINA MORUM	COL					0.7	51			X
PEDIASTRUM BIRADIATUM V. LONGECORNUTUM	COL								0.6	30
PEDIASTRUM BORYANUM	COL						X			
PEDIASTRUM DUPLEX V. CLATHRATUM	COL						X			
PEDIASTRUM DUPLEX V. RETICULATUM	COL						X			
PEDIASTRUM TETRAS V. TETRADON	COL					0.7	51			X
PENNATE DIATOM	CEL						X			
PHACUS	CEL								0.6	30
PINNULARIA	CEL						X			
PTEROMONAS	CEL			X						
PTEROMONAS KLEBSII	CEL		1.3	33						
RAPHIDIOPSIS	FIL							3	8.5	418
SCENEDESMUS	COL						X			
SCENEDESMUS #1	COL					1.4	101		0.6	30
SCENEDESMUS ACUMINATUS	COL					0.7	51			X
SCENEDESMUS ARMATUS V. BOGLARIENSIS	COL						X			
SCENEDESMUS BICAUDATUS	COL					4.2	304		0.6	30

LAKE NAME: LAKE WATEREE
STORET NUMBER: 4510

CONTINUED

TAXA	FORM	03 30 73 S	03 30 73 %C	03 30 73 ALGAL UNITS PER ML	07 06 73 S	07 06 73 %C	07 06 73 ALGAL UNITS PER ML	09 21 73 S	09 21 73 %C	09 21 73 ALGAL UNITS PER ML
SCENEDESMUS BIJUGA	COL									X
SCENEDESMUS DENTICULATUS	COL					0.7	51			X
SCENEDESMUS DISPAR ?	COL						X		1.2	60
SCENEDESMUS QUADRICAUDA	COL		1.3	33					2.4	119
SCHROEDERIA ?	CEL									X
SCHROEDERIA SETIGERA	CEL		0.9	22						
SYNEDRA	CEL						X			X
SYNEDRA ULNA	CEL			X		2.1	152			
TETRAEDRON	CEL						X			
TETRAEDRON #1	CEL					1.4	101			
TETRAEDRON MINIMUM	CEL									X
TETRAEDRON TRIGONUM	CEL						X			
TETRASTRUM HETERACANTHUM	COL									X
TRACHELOMONAS VOLVOCINA	CEL		2.6	66						
TREUBARIA	CEL					0.7	51			X
TOTAL				2563			7189			4999

LAKE NAME: LAKE WYLIE
STORET NUMBER: 4511

NYGAARD TROPHIC STATE INDICES

DATE	03 28 73	07 12 73	09 20 73
MYXOPHYCEAN	3.00 E	1.50 E	3.00 E
CHLOROPHYCEAN	3.00 E	2.50 E	7.00 E
EUGLENOPHYTE	0.17 ?	0.12 ?	0/20 ?
DIATOM	0.44 E	0.56 E	1.00 E
COMPOUND	11.0 E	5.75 E	12.0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	03 28 73	07 12 73	09 20 73
GENUS	11	09	12
SPECIES	00	00	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		03 28 73	07 12 73	09 20 73
AVERAGE DIVERSITY	H	3.36	3.62	3.81
NUMBER OF TAXA	S	27.00	42.00	34.00
NUMBER OF SAMPLES COMPOSITED	M	4.00	4.00	4.00
MAXIMUM DIVERSITY	MAXH	4.75	5.39	5.09
TOTAL DIVERSITY	D	10617.60	16782.32	3813.81
TOTAL NUMBER OF INDIVIDUALS/ML	N	3160.00	4636.00	1001.00
EVENESS COMPONENT	J	0.71	0.67	0.75
MEAN NUMBER OF INDIVIDUALS/TAXA	L	117.04	110.38	29.44
NUMBER/ML OF MOST ABUNDANT TAXON	K	627.00	974.00	134.00

LAKE NAME: LAKE WYLIE
STORET NUMBER: 4511

CONTINUED

TAXA	FORM	03 28 73 S	03 28 73 %C	03 28 73 ALGAL UNITS PER ML	07 12 73 S	07 12 73 %C	07 12 73 ALGAL UNITS PER ML	09 20 73 S	09 20 73 %C	09 20 73 ALGAL UNITS PER ML
ANABAENA	FIL								13.2	132
ANABAENA #1	FIL					1.6	76			
ANABAENA #2	FIL						X			
ANKISTRODESMUS	CEL		1.6	52			X		1.3	13
ANKISTRODESMUS FALCATUS	CEL									X
ASTERIONELLA	CEL			X		0.8	38			
CENTRIC DIATOM	CEL								11.9	119
CENTRIC DIATOM #1	CEL		2.5	78		3.3	152			
CHLAMYDOMONAS	CEL					3.3	152		5.2	52
CHLORELLA	CEL								7.9	79
CHLORELLA VULGARIS	CEL									X
CHROOCOCCUS ?	COL								2.7	27
CLOSTERIUM	CEL			X						
CLOSTERIUM #2	CEL						X			
COCCONEIS	CEL						X			
COELASTRUM	COL						X			
COSMARIUM #1	CEL					0.8	38			
COSMARIUM #2	CEL						X			
CRUCIGENIA	COL									X
CRUCIGENIA CRUCIFERA	COL						X			
CRUCIGENIA TETRAPEDIA	COL					0.8	38			
CRYPTOMONAS	CEL					13.1	508			
CRYPTOMONAS #2	CEL								10.5	105
CYCLOTELLA	CEL		9.9	314		18.9	874			
CYCLOTELLA STELLIGERA ?	CEL									X
CYMBELLA	CEL						X			
DACTYLOCOCCOPSIS	CEL		4.1	131		1.6	76			
DINOBRYON BAVARICUM	CEL		0.8	26						
DINOFLAGELLATE #1	CEL			X		1.6	76			
DINOFLAGELLATE #2	CEL		0.8	26		3.3	152			
DINOFLAGELLATE #3	CEL					0.8	38			
DINOFLAGELLATE SPP.	CEL								5.2	52

LAKE NAME: LAKE WYLIE
STORET NUMBER: 4511

CONTINUED

TAXA	FORM	03 28 73 S	03 28 73 %C	03 28 73 ALGAL UNITS PER ML	07 12 73 S	07 12 73 %C	07 12 73 ALGAL UNITS PER ML	09 20 73 S	09 20 73 %C	09 20 73 ALGAL UNITS PER ML
EPITHEMIA	CEL			X						
EUGLENA	CEL		0.8	26						
EUGLENA #1	CEL						X			
EUNOTIA	CEL			X						
FLAGELLATE #1	CEL		19.8	527						
FLAGELLATE #2	CEL		15.7	496					6.6	66
FLAGELLATE #3	CEL		6.6	209						
FLAGELLATES	CEL					13.1	508			
FRANCEIA DROESCHERI	CEL						X			
KIRCHNERIELLA CONTORTA	CEL					0.8	38			
LYNGBYA LIMNETICA	FIL			X		0.8	38		2.7	27
MELOSIRA	CEL								7.9	79
MELOSIRA #2	CEL		6.6	209		13.1	508			X
MELOSIRA DISTANS	CEL		14.9	470		13.9	646			
MERISMOPEDIA	COL								7.9	79
MERISMOPEDIA MARSSONII	COL									X
MICROCYSTIS	COL								1.3	13
MICROCYSTIS INCERTA	COL					0.8	36			
NAVICULA #1	CEL									X
NAVICULA #2	CEL									X
NAVICULA #3	CEL		0.8	26		0.8	38			
NITZSCHIA	CEL			X						
NITZSCHIA #1	CEL					0.8	38		2.7	27
NITZSCHIA #2	CEL					3.3	152			
OSCILLATORIA	FIL		1.6	52						
OSCILLATORIA LIMNETICA	FIL					0.9	38			
PEDIASTRUM BIRADIATUM V. LONGECORNUTUM	COL						X			
PEDIASTRUM TETRAS V. TETRAODON	COL									X
PENNATE DIATOM #1	CEL					0.9	38			
PENNATE DIATOM #4	CEL		0.8	26						

LAKE NAME: LAKE WYLIE
STORET NUMBER: 4511

CONTINUED

TAXA	FORM	03 29 73 S	03 29 73 %C	03 29 73 ALGAL UNITS PER ML	07 12 73 S	07 12 73 %C	07 12 73 ALGAL UNITS PER ML	09 20 73 S	09 20 73 %C	09 20 73 ALGAL UNITS PER ML
PHACUS PELIKOIDES	CEL						X			
PINNULARIA	CEL			X						
RHIZOSCLENIA	CEL						X			
SCENEDESMUS	COL								9.2	92
SCENEDESMUS #1	COL		0.8	26		0.8	38			
SCENEDESMUS ABUNDANS	COL									X
SCENEDESMUS ACUMINATUS	COL									X
SCENEDESMUS GUTWINSKII V. ?	COL									X
SCENEDESMUS QUADRICAUDA	COL						X			
SCENEDESMUS QUADRICAUDA V. LONGISPINA	COL									X
SCENEDESMUS SOLI	COL			X						
SCHROEDERIA SETIGERA	CEL									X
STAURASTRUM	CEL						X			
STAURASTRUM #1	CEL								1.3	13
STAURASTRUM #2	CEL								1.3	13
SYNEDRA	CEL		11.5	355						
SYNEDRA ?	CEL			X						
SYNEDRA #1	CEL						X			
SYNEDRA #2	CEL						X			
TABELLARIA	CEL									X
TETRAEDRON	CEL						X			
TETRAEDRON REGULARE V. INCLS ?	CEL								1.3	13
TROUBARIA	CEL									X
TOTAL				3160			4636			1001

LAKE NAME: LAKE MOLLTRIE
STORET NUMBER: 4512

NYGAARD TROPHIC STATE INDICES

DATE	07 09 73	09 21 73
MYXOPHYCEAN	3.00 E	1.50 E
CHLOROPHYCEAN	4.67 E	3.50 E
EUGLENOPHYTE	0/23 ?	0/10 ?
DIATOM	0.67 E	1.00 E
COMPOUND	9.00 E	6.00 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	07 09 73	09 21 73
GENUS	22	08
SPECIES	07	04

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		07 09 73	09 21 73
AVERAGE DIVERSITY	H	3.56	2.05
NUMBER OF TAXA	S	39.00	17.00
NUMBER OF SAMPLES COMPOSITED	M	6.00	6.00
MAXIMUM DIVERSITY	MAXH	5.29	4.09
TOTAL DIVERSITY	D	48448.04	36428.50
TOTAL NUMBER OF INDIVIDUALS/ML	N	13609.00	17770.00
EVENESS COMPONENT	J	0.67	0.50
MEAN NUMBER OF INDIVIDUALS/TAXA	L	348.95	1045.29
NUMBER/ML OF MOST ABUNDANT TAXON	K	3609.00	7280.00

LAKE NAME: LAKE MOULTRIE
STORET NUMBER: 4512

CONTINUED

TAXA	FORM	07 09 73 S	07 09 73 %C	07 09 73 ALGAL UNITS PER ML	09 21 73 S	09 21 73 %C	09 21 73 ALGAL UNITS PER ML
ACHNANTHES LANCEOLATA V. DUBIA	CEL			X			
ANABAENA	FIL					0.4	70
ANABAENA #1	FIL		0.7	93			
ANABAENA #2	FIL		2.0	278			
ANKISTRODESMUS	CEL		0.7	93			
CHROOCOCCUS	COL					38.5	6850
CLOSTERIUM	CEL			X			
COELASTRUM	COL			X			
COELASTRUM PRINTSII ?	COL					0.8	140
COELASTRUM SPHAERICUM	COL		0.7	93			
COSCINODISCUS	CEL						X
COSMARIUM	CEL					0.4	70
CRYPTOMONAS #1	CEL		2.0	278			
CYCLOTELLA STELLIGERA	CEL		2.0	278			
DACTYLOCOCCOPSIS	CEL		4.1	555			
DACTYLOCOCCOPSIS FASCICULARIS	CEL					41.0	7280
DINOFLAGELLATE	CEL		0.7	93		0.4	70
EUASTRUM	CEL		0.7	93			
FLAGELLATES	CEL		4.1	555			
FRAGILARIA CROTONENSIS	CEL			X			
FRANCEIA	CEL		0.7	93			
GOLENKINIA	CEL			X		0.4	70
KIRCHNERIELLA	CEL			X			
LYNGBYA LIMNETICA	FIL		26.5	3609			
MELOSIRA	CEL					8.7	1540
MELOSIRA #2	CEL		22.4	3054			
MELOSIRA #3	CEL		1.4	185			
MELOSIRA DISTANS	CEL		11.5	1573			
MERISMOPEDIA PUNCTATA	COL			X			
MERISMOPEDIA TENUISSIMA	COL		2.0	278			
MICROCYSTIS INCERTA	COL		1.4	195			

LAKE NAME: LAKE MOULTRIE
STORET NUMBER: 4512

CONTINUED

TAXA	FORM	07 09 73 S	07 09 73 %C	07 09 73 ALGAL UNITS PER ML	09 21 73 S	09 21 73 %C	09 21 73 ALGAL UNITS PER ML
NAVICULA	CEL		0.7	93			
NITZSCHIA #1	CEL		2.0	278			
OSCILLATORIA LIMNETICA	FIL		2.0	278			
PEDIASTRUM DUPLEX V. RETICULATUM	COL			X		0.4	70
PEDIASTRUM TETRAS V. TETRADON	COL		0.7	93		0.4	70
PENNATE DIATOM #1	CEL					4.3	770
PENNATE DIATOM #2	CEL						X
RAPHIDIOPSIS	FIL		0.7	93			
SCENEDESMUS ABUNDANS	COL		1.4	185			
SCENEDESMUS ACUMINATUS	COL					0.4	70
SCENEDESMUS BICALDATUS	CCL			X			
SCENEDESMUS BIJUGA	CCL						X
SCENEDESMUS DENTICULATUS	COL			X			
SCENEDESMUS DISPAR	COL		1.4	185			
SCENEDESMUS QUADRICAUDA V. LONGISPINA	COL		5.4	740		3.2	550
STAURASTRUM	CEL			X		0.8	140
SYNEDRA	CEL		0.7	93			
SYNEDRA ULNA	C		1.4	185			
TETRAEDRON MINIMUM	CEL			X			
TOTAL				13609			17770

LAKE NAME: LAKE KEOWEE
STORET NUMBER: 4513

NYGAARD TROPHIC STATE INDICES

DATE	06 25 73	09 17 73	11 13 73
MYXOPHYCEAN	04/0 E	8.00 E	1.00 E
CHLOROPHYCEAN	01/0 E	3.00 E	4.00 E
EUGLENOPHYTE	0/05 ?	0/11 ?	0.20 ?
DIATOM	0.67 E	1.33 E	1.00 E
COMPOUND	09/0 E	15.0 E	9.00 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	06 25 73	09 17 73	11 13 73
GENUS	02	02	00
SPECIES	00	00	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		06 25 73	09 17 73	11 13 73
AVERAGE DIVERSITY	H	2.23	3.15	2.60
NUMBER OF TAXA	S	21.00	29.00	12.00
NUMBER OF SAMPLES COMPOSITED	M	4.00	4.00	4.00
MAXIMUM DIVERSITY	MAXH	4.39	4.91	3.58
TOTAL DIVERSITY	D	4326.20	2101.05	156.00
TOTAL NUMBER OF INDIVIDUALS/ML	N	1940.00	667.00	60.00
EVENESS COMPONENT	J	0.51	0.65	0.73
MEAN NUMBER OF INDIVIDUALS/TAXA	L	92.38	23.82	5.00
NUMBER/ML OF MOST ABUNDANT TAXON	K	915.00	231.00	17.00

LAKE NAME: LAKE KEOWEE
STORET NUMBER: 4513

CONTINUED

TAXA	FORM	06 25 73 S	06 25 73 %C	06 25 73 ALGAL UNITS PER ML	09 17 73 S	09 17 73 %C	09 17 73 ALGAL UNITS PER ML	11 13 73 S	11 13 73 %C	11 13 73 ALGAL UNITS PER ML
ANABAENA #1	FIL		1.3	25			X			
ASTERIONELLA	CEL		0.6	12						
ASTERIONELLA FORMOSA	CEL			X						
CERATIUM HIRUNDINELLA	CEL			X						
COELASTRUM #1	COL					1.5	10		6.7	4
COSMARIUM	CEL									X
CRUCIGENIA TETRAPEDIA	COL		0.6	12					28.3	17
CYANOPHYTAN FILAMENT	FIL		1.3	25						
CYCLOTELLA	CEL		10.2	198						
CYCLOTELLA STELLIGERA	CEL		27.4	532		6.3	42		15.0	9
DACTYLOCOCCOPSIS #1	CEL			X		1.5	10		6.7	4
DACTYLOCOCCOPSIS SMITHII	CEL						X			
DINOBRYON	CEL						X			X
DINOBRYON SERTULARIA	CEL						X			
DINOBRYON SERTULARIA ?	CEL			X						
DINOFLAGELLATE	CEL		3.8	74		1.5	10			
EUGLENA	CEL									X
FLAGELLATE	CEL					4.6	31			
FLAGELLATE #1	CEL		2.5	49			X			
GLOEOTHECE	COL					10.9	73			
LYNGBYA LIMNETICA	FIL					6.3	42			
MALLOMONAS	CEL		0.6	12		1.5	10			
MELOSIRA #4	CEL						X			
MELOSIRA DISTANS	CEL		47.2	915		14.1	94		21.7	13
MELOSIRA ITALICA V. TENUISSIMA	CEL						X			
MERISMOPEDIA TENUISSIMA	COL		2.5	49		6.3	42			
MICROCYSTIS INCERTA	COL						X			
MICROTHAMNION STRICTISSIMUM	FIL					1.5	10			
NAVICULA #1	CEL			X		1.5	10			X
NAVICULA #2	CEL			X						
NAVICULA ELGINENSIS	CEL						X			

LAKE NAME: LAKE KEOWEE
STORET NUMBER: 4513

CONTINUED

TAXA	FORM	05 25 73 S	%C	ALGAL UNITS PER ML	09 17 73 S	%C	ALGAL UNITS PER ML	11 13 73 S	%C	ALGAL UNITS PER ML
OOCYSTIS	CEL						X			X
OSCILLATORIA	FIL					4.6	31			
PENNATE DIATOM #1	CEL								6.7	4
PERIDINIUM WISCONSINENSE	CEL		0.6	12			X			
QUADRIGULA CLOSTERIOIDES	CEL						X			
RHIZOSOLENIA ERIENSIS	CEL			X						
ROYA ?	CEL					34.6	231			
SCENEDESMUS BIJUGA	COL								15.0	9
STAURASTRUM	CEL						X			
SYNEDRA	CEL			X		3.1	21			
TABELLARIA FENESTRATA	CEL		1.3	25						
TOTAL				1940			667			60

LAKE NAME: LAKE SECESSION
STORET NUMBER: 4514

NYGAARD TROPHIC STATE INDICES

DATE	06 26 73	09 18 73	11 14 73
MYXOPHYCEAN	2.40 E	06/0 E	1.25 E
CHLOROPHYCEAN	4.20 E	02/0 E	5.00 E
EUGLENOPHYTE	0.18 ?	0.25 E	0.16 ?
DIATOM	0.50 E	0.80 E	0.50 E
COMPOUND	8.80 E	14/0 E	8.25 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	06 26 73	09 18 73	11 14 73
GENUS	10	00	15
SPECIES	00	00	07

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		06 26 73	09 18 73	11 14 73
AVERAGE DIVERSITY	H	3.92	2.62	4.03
NUMBER OF TAXA	S	70.00	23.00	55.00
NUMBER OF SAMPLES COMPOSITED	M	3.00	3.00	3.00
MAXIMUM DIVERSITY	MAXH	6.13	4.52	5.78
TOTAL DIVERSITY	D	9325.68	969.40	21101.09
TOTAL NUMBER OF INDIVIDUALS/ML	N	2379.00	370.00	5236.00
EVENESS COMPONENT	J	0.64	0.58	0.70
MEAN NUMBER OF INDIVIDUALS/TAXA	L	33.99	16.09	95.20
NUMBER/ML OF MOST ABUNDANT TAXON	K	567.00	147.00	1145.00

LAKE NAME: LAKE SECESSION
STORET NUMBER: 4514

CONTINUED

TAXA	FORM	06 26 73 S	06 26 73 °C	06 26 73 ALGAL UNITS PER ML	09 18 73 S	09 18 73 °C	09 18 73 ALGAL UNITS PER ML	11 14 73 S	11 14 73 °C	11 14 73 ALGAL UNITS PER ML
ACHNANTHES LANCEOLATA	CEL			X						
ACHNANTHES LANCEOLATA V. DUBIA	CEL			X						
ANABAENA #1	FIL		0.9	21		39.7	147			
ANABAENA #2	FIL						X			X
ANABAENA #3	FIL			X			X		0.5	27
ANABAENOPSIS	FIL			X		13.2	49			
ANKISTRODESMUS	CEL		0.5	11						
ANKISTRODESMUS FALCATUS	CEL					6.8	25		21.9	1145
APHANOTHECE	COL		0.5	11						
ASTERIONELLA FORMOSA	CEL									X
CENTRIC DIATOM	CEL		0.5	11			X			
CERATIUM HIRUNDINELLA	CEL		0.3	6					0.5	27
CHROOCOCCUS DISPERSUS	COL		0.5	13						
CHRYSOCOCCUS	CEL								0.5	27
CLOSTERIUM	CEL									X
COELASTRUM CAMBRICUM	COL			X						
COELASTRUM SPHAERICUM ?	COL			X						
COSMARIUM	CEL			X					0.5	27
CRUCIGENIA APICULATA	COL			X					0.5	27
CRUCIGENIA CRUCIFERA	COL									X
CRUCIGENIA TETRAPEDIA	COL									
CRYPTOMONAS ? #2	CEL	1	14.2	337					3.6	191
CRYPTOMONAS #1	CEL		1.6	38					1.6	82
CRYPTOMONAS #2	CEL						X		2.6	136
CYANOPHYTAN FILAMENT	FIL		2.7	64						
CYCLOTELLA STELLIGERA	CEL		2.7	64		6.8	25		4.2	218
DACTYLOCOCCOPSIS	CEL		3.0	71						
DINOBRYON BAVARICUM	CEL								1.1	55
DINOBRYON SERTULARIA	CEL									X
DINOFLAGELLATE #1	CEL		1.9	46			X			X
DINOFLAGELLATE #2	CEL		0.3	7					1.1	55

LAKE NAME: LAKE SECESSION
STORET NUMBER: 4514

CONTINUED

TAXA	FORM	06 26 73 S	06 26 73 %C	06 26 73 ALGAL UNITS PER ML	09 18 73 S	09 18 73 %C	09 18 73 ALGAL UNITS PER ML	11 14 73 S	11 14 73 %C	11 14 73 ALGAL UNITS PER ML
DINOFLAGELLATE #3	CEL		0.5	11						
DINOFLAGELLATE #4	CEL		0.3	6						
EUASTRUM	CEL		0.3	7					0.5	27
EUDORINA ?	COL			X						
EUGLENA	CEL						X			
EUGLENA #1	CEL		0.5	13					1.1	55
EUGLENA #2	CEL			X						
EUGLENA ACUS	CEL						X			
EUGLENA ACUS V. RIGIDA	CEL			X						X
FLAGELLATES	CEL	4	9.6	228		6.8	25		15.3	1009
FRUSTULIA RHOMBOIDES V. CAPITATA	CEL			X						
GOLENKINIA	CEL		0.3	7						
GYMNODINIUM ?	CEL			X						
KIRCHNERIELLA	CEL		0.7	17						
LAGERHEIMIA	CEL		0.3	6						
LAGERHEIMIA CILIATA V. MINOR	CEL									X
LYNGBYA LAGERHEIMII	FIL									X
LYNGBYA LIMNETICA	FIL		1.0	23						
MELOSIRA #2	CEL		2.3	54			X		5.2	273
MELOSIRA DISTANS	CEL	2	23.8	567			X		0.5	27
MERISMOPEDIA MARSSONII	COL		1.1	27						
MICRACTINIUM PUSILLUM	COL								0.5	27
MICROCYSTIS INCERTA	COL	5	8.6	205					0.5	27
NAVICULA #1	CEL			X						
NAVICULA #2	CEL			X						
NAVICULA #3	CEL			X						
NAVICULA #4	CEL						X			
NAVICULA SUBTILISSIMA ?	CEL						X			
NAVICULA VIRIDULA V. LINEARIS	CEL						X			

LAKE NAME: LAKE SECESSION
STORET NUMBER: 4514

CONTINUED

TAXA	FORM	06 26 73 S	06 26 73 %C	06 26 73 ALGAL UNITS PER ML	09 18 73 S	09 18 73 %C	09 18 73 ALGAL UNITS PER ML	11 14 73 S	11 14 73 %C	11 14 73 ALGAL UNITS PER ML
NEPHROCYTIUM AGARDHIANUM	COL								5.7	300
NITZSCHIA	CEL		0.5	13						X
COCYSTIS	CEL			X						
OSCILLATORIA	FIL		2.7	64			X			X
PANDORINA MORUM	COL		0.5	13			X			X
PEDIASTRUM BIRADIATUM V. LONGECORNUTUM	COL								1.1	55
PEDIASTRUM DUPLEX	COL									X
PEDIASTRUM DUPLEX V. RETICULATUM	COL			X						
PEDIASTRUM TETRAS V. TETRAODON	COL									X
PENNATE DIATOM #1	CEL									X
PHACUS #1	CEL			X						X
PHACUS LONGICAUDA	CEL		0.3	7						
PINNULARIA	CEL						X		0.5	27
RAPHIDIOPSIS	FIL		1.0	23		6.8	25			
RHIZOSOLENIA ERIENSIS	CEL		2.4	58					1.1	55
SCENEDESMUS	COL									X
SCENEDESMUS #1	COL								1.1	55
SCENEDESMUS ABUNDANS	COL			X						
SCENEDESMUS ACUMINATUS	COL			X						X
SCENEDESMUS BICAUDATUS	COL			X						
SCENEDESMUS BIJUGA	COL			X		5.8	25		5.7	300
SCENEDESMUS DISPAR	COL		0.6	15					4.2	218
SCENEDESMUS QUADRICAUDA	COL			X					1.1	55
SCHROEDERIA SETIGERA	CEL		0.5	13						
STAURASTRUM #1	CEL			X						
STAURASTRUM #2	CEL			X						
STAURASTRUM #3	CEL		0.3	6						X
SYNEDRA #1	CEL			X		13.2	49		4.7	245
SYNEDRA #2	CEL	3	10.6	252					1.1	55

LAKE NAME: LAKE SECESSION
STORET NUMBER: 4514

CONTINUED

TAXA	FORM	06 26 73 S	06 26 73 %C	06 26 73 ALGAL UNITS PER ML	09 18 73 S	09 18 73 %C	09 18 73 ALGAL UNITS PER ML	11 14 73 S	11 14 73 %C	11 14 73 ALGAL UNITS PER ML
SYNEDRA DELICATISSIMA	CEL									X
SYNEDRA ULNA	CEL		0.9	21						
TABELLARIA	CEL								1.1	55
TETRAEDRON #1	CEL			X						
TETRAEDRON GRACILE	CEL			X						
TETRAEDRON MINIMUM	CEL			X					3.6	191
TETRAEDRON REGULARE V. INCUS	CEL			X						
TETRAEDRON TRIGONUM V. GRACILE	CEL								0.5	27
TETRASTRUM HETERACANTHUM	COL			X					0.5	27
TRACHELOMONAS	CEL		1.0	23					1.6	82
TREUBARIA	CEL								0.5	27
TOTAL				2379			370			5236

LAKE NAME: SALUDA LAKE
STORET NUMBER: 4515

NYGAARD TROPHIC STATE INDICES

DATE	06 22 73	09 18 73	11 14 73
MYXOPHYCEAN	2.00 E	0.67 E	4.00 E
CHLOROPHYCEAN	2.00 E	0.33 ?	4.00 E
EUGLENOPHYTE	1.25 E	0.33 E	0.12 ?
DIATOM	0.22 ?	0.75 E	0.38 E
COMPOUND	7.00 E	3.33 E	14.0 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	06 22 73	09 18 73	11 14 73
GENUS	00	00	00
SPECIES	00	00	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		06 22 73	09 18 73	11 14 73
AVERAGE DIVERSITY	H	1.99	2.93	3.65
NUMBER OF TAXA	S	20.00	23.00	33.00
NUMBER OF SAMPLES COMPOSITED	M	2.00	2.00	2.00
MAXIMUM DIVERSITY	MAXH	4.32	4.52	5.04
TOTAL DIVERSITY	D	845.75	668.04	613.20
TOTAL NUMBER OF INDIVIDUALS/ML	N	425.00	228.00	168.00
EVENESS COMPONENT	J	0.46	0.65	0.72
MEAN NUMBER OF INDIVIDUALS/TAXA	L	21.25	9.91	5.09
NUMBER/ML OF MOST ABUNDANT TAXON	K	265.00	62.00	28.00

LAKE NAME: SALUDA LAKE
STORET NUMBER: 4515

CONTINUED

TAXA	FORM	06 22 73 S	06 22 73 %C	06 22 73 ALGAL UNITS PER ML	09 19 73 S	09 19 73 %C	09 19 73 ALGAL UNITS PER ML	11 14 73 S	11 14 73 %C	11 14 73 ALGAL UNITS PER ML
ACHNANTHES	CEL		4.2	19						
ANABAENA	FIL					5.3	12	2	9.5	15
ANKISTRODESMUS	CEL	5	4.2	19						
ANKISTRODESMUS FALCATUS	CEL			X		5.3	12		2.4	4
ASTERIONELLA #1	CEL				1	21.5	49			
ASTERIONELLA #2	CEL									X
ATTHEYA	CEL				3	16.2	37			
CLOSTERIUM	CEL						X			
COCCONEIS	CEL									X
COSMARIUM	CEL	4	4.2	18			X			
CRUCIGENIA TETRAPEDIA	COL									X
CRYPTOMONAS #1	CEL			X					4.8	8
CYCLOTELLA	CEL						X			X
CYCLOTELLA STELLIGERA	CEL				4	5.3	12			X
DINOBRYON #1	CEL						X			X
DINOBRYON #2	CEL									X
DINOFLAGELLATE	CEL								2.4	4
EUGLENA #1	CEL			X						
EUGLENA #2	CEL						X			X
EUNOTIA #1	CEL						X			
EUNOTIA #2	CEL									X
EUNOTIA ARCUS	CEL						X			
FLAGELLATES	CEL	1	62.4	265	2	27.2	62	4	14.3	24
FRAGILARIA	CEL			X						
FRUSTULIA RHOMBOIDES V. SAXONICA	CEL			X			X			
GOMPHONEMA	CEL			X						
LYNGBYA CONTORTA	FIL								4.8	9
MELOSIRA #2	CEL			X			X	1	16.7	28
MELOSIRA #5	CEL						X			
MELOSIRA DISTANS	CEL									X
MERISMOPEDIA TENUISSIMA	COL					5.3	12			

LAKE NAME: SALUDA LAKE
STORET NUMBER: 4515

CONTINUED

TAXA	FORM	06 22 73 S	06 22 73 %C	06 22 73 ALGAL UNITS PER ML	09 18 73 S	09 18 73 %C	09 18 73 ALGAL UNITS PER ML	11 14 73 S	11 14 73 %C	11 14 73 ALGAL UNITS PER ML
NAVICULA #1	CEL	2	8.2	35	5	5.3	12			X
NAVICULA #2	CEL			X			X			X
NAVICULA #3	CEL						X			X
NAVICULA BICONICA	CEL								4.8	8
NITZSCHIA #1	CEL					5.3	12		2.4	4
NITZSCHIA ACICULARIS	CEL							3	14.3	24
OSCILLATORIA #1	FIL			X						
OSCILLATORIA LIMNETICA	FIL		4.2	18					4.8	8
PENNATE DIATOM #1	CEL		8.2	35						
PERIDINIUM WISCONSINENSE	CEL	3	4.2	18						
PINNULARIA #1	CEL			X					2.4	4
PINNULARIA OBSCURA	CEL									X
RAPHIDIOPSIS	FIL								4.8	8
RHIZOSOLENIA	CEL						X			
RHIZOSOLENIA ERIENSIS	CEL			X						X
SCENEDESMUS	COL								2.4	4
SCENEDESMUS QUADRICAUDA	COL								2.4	4
STAURASTRUM	CEL					3.5	8			X
SURIRELLA ANGUSTATA	CEL									X
SYNEDRA	CEL			X						
SYNEDRA SOCIA	CEL							5	7.1	12
TOTAL				425			228			168

LAKE NAME: LAKE WILLIAM C. BOWEN
STORET NUMBER: 4516

NYGAARD TROPHIC STATE INDICES

DATE	03 29 73	07 11 73	09 20 73
MYXOPHYCEAN	02/0 E	3.50 E	2.33 E
CHLOROPHYCEAN	0/0 O	2.50 E	1.33 E
EUGLENOPHYTE	0/02 ?	0.25 E	0.18 ?
DIATOM	0.67 E	1.33 E	1.50 E
COMPOUND	04/0 E	9.50 E	5.33 E

PALMER'S ORGANIC POLLUTION INDICES

DATE	03 29 73	07 11 73	09 20 73
GENUS	01	03	03
SPECIES	00	00	00

SPECIES DIVERSITY AND ABUNDANCE INDICES

DATE		03 29 73	07 11 73	09 20 73
AVERAGE DIVERSITY	H	1.62	2.33	2.51
NUMBER OF TAXA	S	11.00	29.00	29.00
NUMBER OF SAMPLES COMPOSITED	M	3.00	3.00	3.00
MAXIMUM DIVERSITY	MAXH	3.46	4.86	4.86
TOTAL DIVERSITY	D	656.10	7031.94	3933.17
TOTAL NUMBER OF INDIVIDUALS/ML	N	405.00	3018.00	1567.00
EVENESS COMPONENT	J	0.47	0.48	0.52
MEAN NUMBER OF INDIVIDUALS/TAXA	L	36.82	104.07	54.03
NUMBER/ML OF MOST ABUNDANT TAXON	K	223.00	1383.00	592.00

LAKE NAME: LAKE WILLIAM C. BOWEN CONTINUED
STORET NUMBER: 4515

TAXA	FORM	03 29 73 S	03 29 73 %C	03 29 73 ALGAL UNITS PER ML	07 11 73 S	07 11 73 %C	07 11 73 ALGAL UNITS PER ML	09 20 73 S	09 20 73 %C	09 20 73 ALGAL UNITS PER ML
ANABAENA #1	FIL						X		2.2	35
ANABAENA #2	FIL			X			X			X
ANABAENA #3	FIL									X
ANKISTRODESMUS	CEL						X			
ARTHRODESMUS	CEL						X			
ASTERICNELLA FORMOSA	CEL	2	4.9	20						
CHRYSOCOCCUS	CEL								1.5	23
COELASTRUM MICROPORUM	COL					0.8	23			
COSMARIUM	CEL						X			X
COSMARIUM #1	CEL								0.8	12
CRUCIGENIA TETRAPEDIA	COL									X
CRYPTOMONAS #1	CEL					0.8	23		1.5	23
CRYPTOMONAS #2	CEL									X
CRYPTOMONAS EROSA	CEL	1	55.1	223						
CYCLOTELLA STELLIGERA	CEL					45.8	1383		29.6	464
DACTYLOCOCCOPSIS IRREGULARIS	CEL			X						
DICTYOSPHAERIUM PULCHELLUM	COL						X			
DINOBRYON	CEL					3.0	92			
DINOBRYON DIVERGENS	CEL									X
DINOFLAGELLATES	CEL					1.5	46			
EUGLENA	CEL									X
EUGLENA #1	CEL						X			
EUGLENA #2	CEL					0.8	23			
FLAGELLATES	CEL					4.6	138		1.5	23
GLOEOTHECE	COL					3.8	115		11.9	186
GOMPHOSPHAERIA LACUSTRIS	COL								3.7	59
KIRCHNERIELLA	CEL								0.8	12
LUNATE CELLED COLONY	COL						X			
LYNGBYA LACERHEIMII	FIL						X			
LYNGBYA LIMNETICA	FIL					0.8	23			
MALLOMONAS	CEL								1.5	23
MALLOMONAS ALPINA	CEL			X						

LAKE NAME: LAKE WILLIAM C. BOWEN CONTINUED
STORET NUMBER: 4516

TAXA	FORM	03 29 73 S	03 29 73 %C	03 29 73 ALGAL UNITS PER ML	07 11 73 S	07 11 73 %C	07 11 73 ALGAL UNITS PER ML	09 20 73 S	09 20 73 %C	09 20 73 ALGAL UNITS PER ML
MALLOMONAS PSEUDOCORONATA	CEL									X
MELOSIRA	CEL						X			
MELOSIRA #2	CEL						X			X
MELOSIRA DISTANS	CEL	4	20.0	81		27.5	830		37.8	592
MELOSIRA ITALICA	CEL			X						
MERISMOPEDIA MINIMA	COL					0.8	23			
MERISMOPEDIA TENUISSIMA	COL					8.4	253		5.9	93
MICROCYSTIS INCERTA	COL									X
MOUGEOTIA	CEL	3	20.0	81						
NAVICULA	CEL			X						
NAVICULA RHYNCHOCEPHALA	CEL						X			
NITZSCHIA	CEL					0.8	23			
OOCYSTIS	CEL								1.5	23
OOCYSTIS SUBMARINA	CEL									X
PENNATE DIATOM #1	CEL									X
PERIDINIUM INCONSPICUUM	CEL			X						
PERIDINIUM WISCONSINENSE	CEL									X
PHACUS	CEL						X			X
SCENEDESMUS ABUNDANS	COL					0.8	23			
SCENEDESMUS BIJUGA	COL						X			
STAURASTRUM	CEL									X
SYNEDRA	CEL						X			X
SYNEDRA ULNA	CEL			X						
TOTAL				405			3019			1567

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16. ABSTRACT

This is a data report presenting the species and abundance of phytoplankton in the 13 lakes sampled by the National Eutrophication Survey in the State of South Carolina. Results from the calculation of several water quality indices are also included (Nygaard's Trophic State Index, Palmer's Organic Pollution Index, and species diversity and abundance indices).

17. KEY WORDS AND DOCUMENT ANALYSIS

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